WLAN 802.11a/b/g USB 2.0 Adapter

User’s Guide

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Regulatory Information

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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1. Welcome

Thank you for purchasing our 802.11a/b/g USB 2.0 Adapter, and welcome to Wireless LAN—the easy way to wireless networking.
This user's guide introduces to you the 802.11a/b/g USB 2.0 Adapter and describes the most common configurations, which will help you connect to your network easily. Please read this manual to get familiar with the IEEE802.11a/b/g Wireless LAN. This manual contains detailed instructions in operation of this product. Please keep this manual for future reference.
As this product is designed to run under Microsoft Windows, it is recommended that to be installed by people who are familiar with the installation procedures for network operating systems under Microsoft Windows.

1.1 Kit Contents

The 802.11a/b/g USB 2.0 Adapter kit should include the following items: One 802.11a/b/g USB 2.0 Adapter with USB cable, one CD and one Quick Start Guide.

- One 802.11a/b/g USB 2.0 Adapter
- One Software CD including:
  (1) Utility & Driver Installation Software
  (2) User Manual PDF File
- Quick Start Guide

1.2 Main Features of 802.11a/b/g USB 2.0 Adapter

Status LED:

- **Off**: Power Off.
- **Blinking**: The USB adapter is powered on but no wireless connection is made yet.
- **Steady Green**: Wireless connection is linked.

802.11a/b/g USB 2.0 Adapter features:

- Plug & Play
- Worldwide Radio Support

- Super A/G™ and eXtended Range XR™ Technology
- Backward Compatible with 802.11b
- Roaming Support
- 802.1x Authentication
- AES-CCM & TKIP Encryption
- 64/128/152-bit WEP Encryption
- Driver Support OS Windows®2000/XP

802.11a/b/g USB 2.0 Adapter supports:

- Automatic load balancing for optimized bandwidth
- Advanced power management
- OS Windows®2000/XP

1.3 Wireless Networking Scenarios

As our 802.11a/b/g USB 2.0 Adapter is interoperable and compatible with other IEEE 802.11a/b/g compliant products from other manufacturers, it offers you the most freedom to establish your ideal wireless network. Therefore, after installing 802.11a/b/g USB 2.0 Adapter, you can connect your computer to:

- A Peer-to-Peer Workgroup of 802.11a/b/g compliant wireless devices.
- A LAN (Local Area Network) constructed by Access Point(s) or other 802.11a/b/g compliant systems.
- Share your Internet access by using just one connection, share printers and other peripheral devices, share data and image files between networked PCs, play multi-player games, and use other network enabled sharing resources.

Peer-to-Peer Networking:

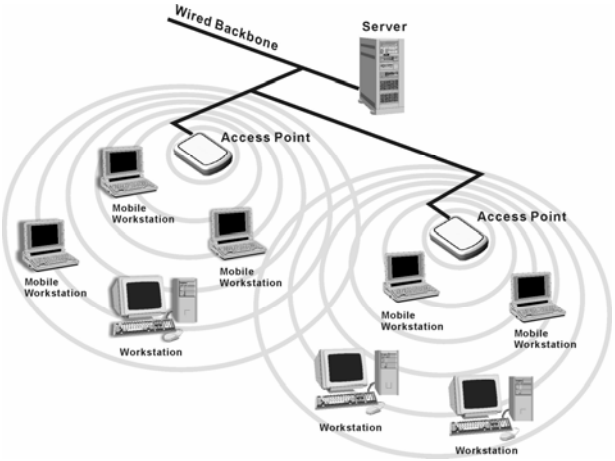
An Ad Hoc Network could be easily set up with some PCs and this 802.11a/b/g USB 2.0 Adapter or our other WLAN devices. Therefore, it is very suitable to build a network for temporary use, such as for demonstration in exhibition, for new sales point/branch use and alike.

Cooperate LAN (Local Area Networking):

With some 802.11a/b/g USB 2.0 Adapters and Access Points, it is easy to construct a LAN with access to Internet for enterprise use.

The construction is quite easy that the 802.11a/b/g USB 2.0 Adapter and Access Point will automatically work at the most suitable frequency when Access Point is set within the proper range.

In addition, commonly manufacturers will bundle the Site-Survey tool for users to check the communication quality.



2. Quick Start Guide

2.1 Installation

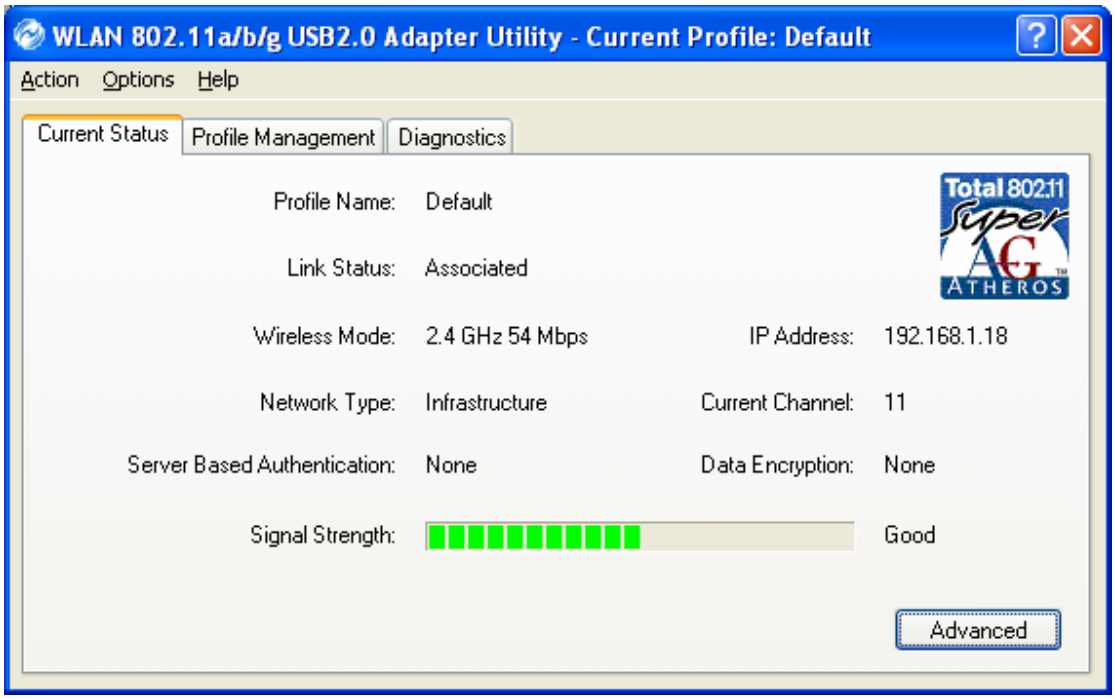
1. **Insert the installation CD**. It automatically starts the setup program for software installation.
2. **Follow the installation wizard** to complete the software installation process.
3. **Connect the WLAN 802.11a/b/g USB 2.0 Adapter** to your laptop PC/desktop PC during software installation.
4. Restart your PC.

NOTE! *Select "Cancel" when Found New Hardware window appears.*

NOTE! *In Windows XP, it is recommended that you use the WLAN 802.11a/b/g USB2.0 Utility.*

2.2 Connecting to an Existing Network

After restarting your PC, the adapter automatically connects to an unsecured network that has the best signal strength(if there's any). **Profile Name** shows Default.



You may also manually assign a network to connect with. Follow the steps below:

1. Open **WLAN 802.11a/b/g USB 2.0 Adapter Utility** (by double-clicking on the shortcut icon on the desktop), and click **Profile Management** tab.

2. Click **Scan**, and **Available Infrastructure and Ad Hoc Networks** list appears.

3. Click the desired network **SSID** and click **Activate**.

4. Contact the network administrator for Profile Settings: **General**, **Security** and **Advanced**.

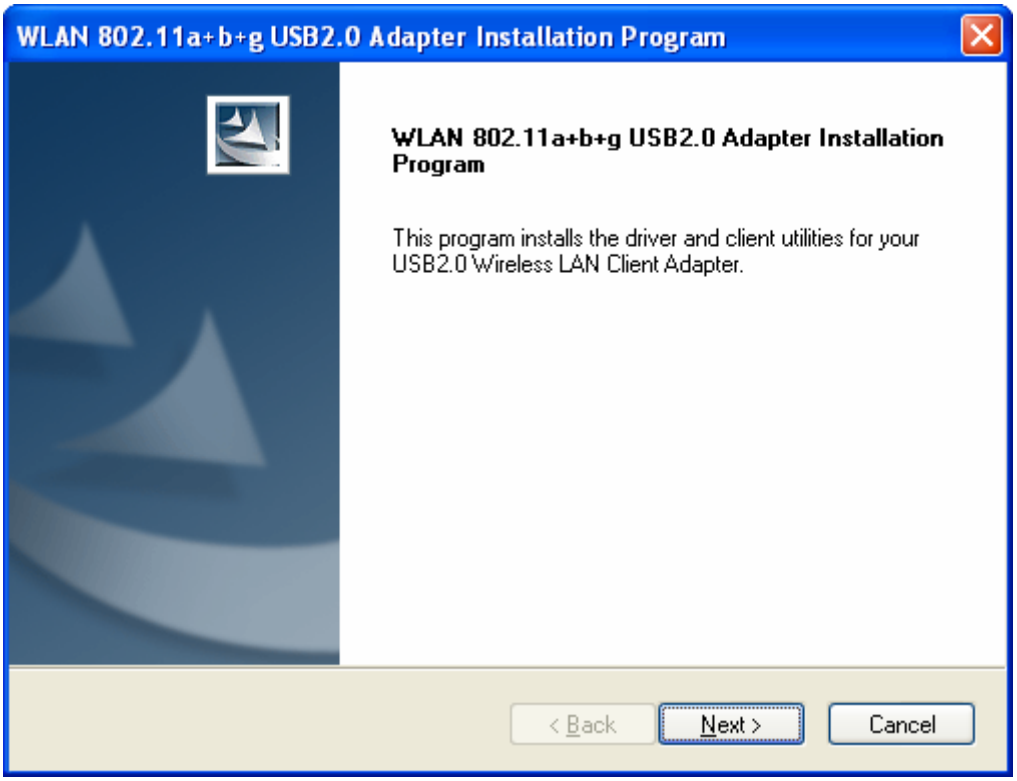
5. Once connected, the configuration icon in the Windows System Tray appears . You can click **Current Status** tab to check the connection status.

6. For details of each tab in WLAN 802.11a/b/g USB2.0 Adapter Utility, please read Chapter 4.

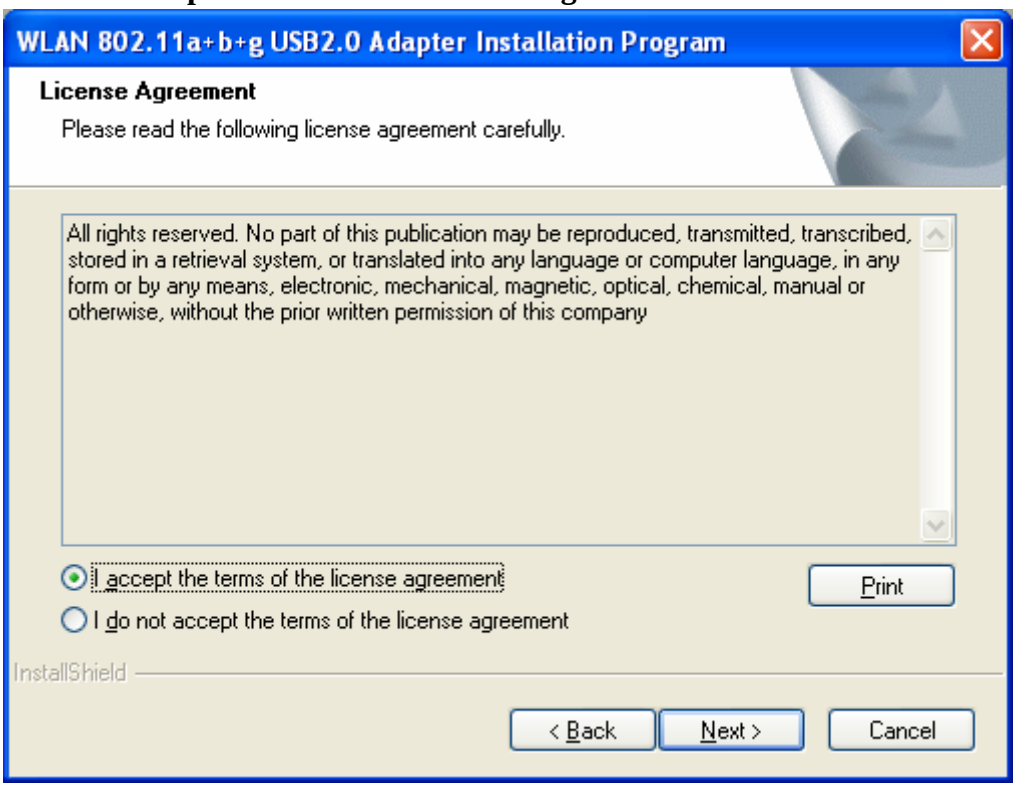
3. Step-by-Step Instructions

3.1 Installation

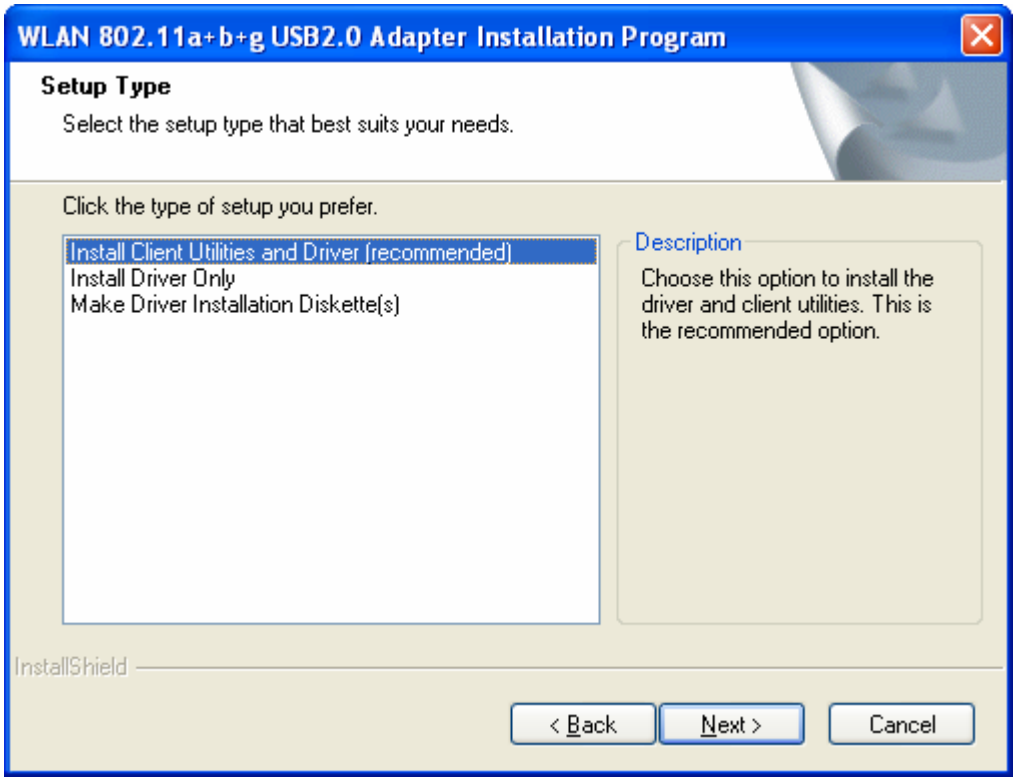
1. **Insert the installation CD** into your CD-ROM drive. **Click Next.**


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
WLAN 802.11a+b+g USB2.0 Adapter Installation Program
This program installs the driver and client utilities for your USB2.0 Wireless LAN Client Adapter.
< Back
Next >
Cancel

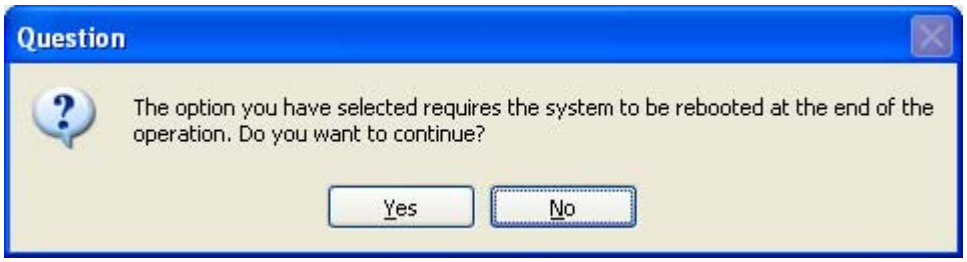
2. **Select "I accept the terms of the license agreement"** and **click Next.**


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
License Agreement
Please read the following license agreement carefully.
All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of this company
I accept the terms of the license agreement
I do not accept the terms of the license agreement
Print
InstallShield
< Back
Next >
Cancel

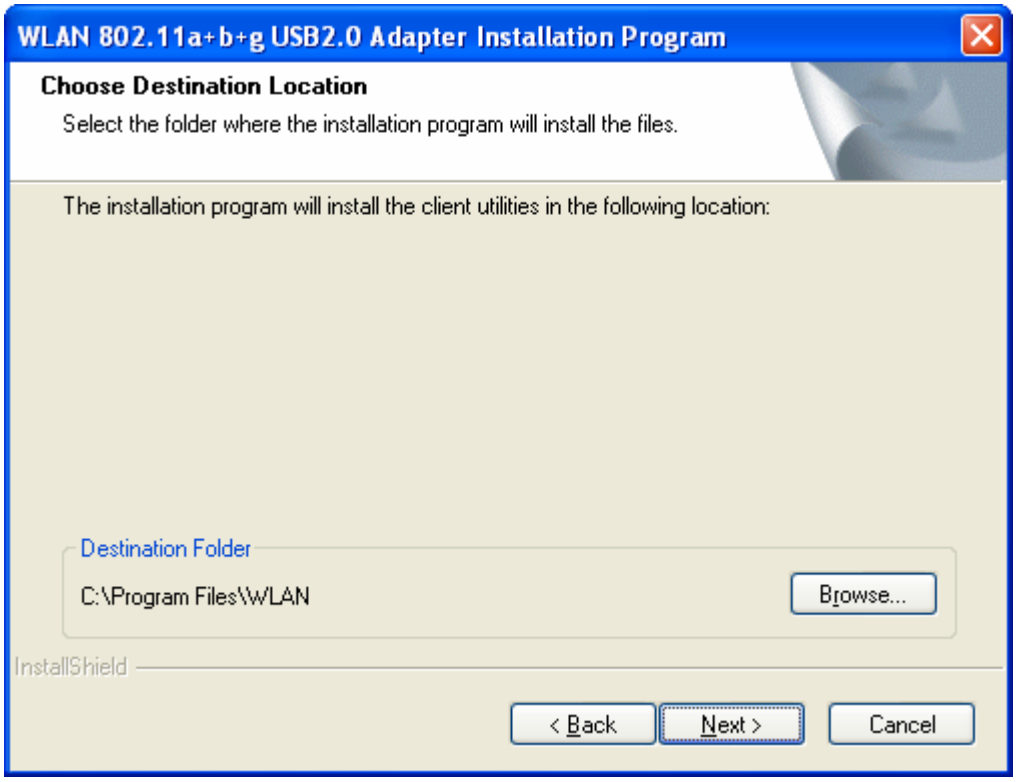
3. **Click Next**. You can highlight different items to choose different setup.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
Setup Type
Select the setup type that best suits your needs.
Click the type of setup you prefer.
Install Client Utilities and Driver (recommended)
Install Driver Only
Make Driver Installation Diskette(s)
Description
Choose this option to install the driver and client utilities. This is the recommended option.
InstallShield
< Back
Next >
Cancel

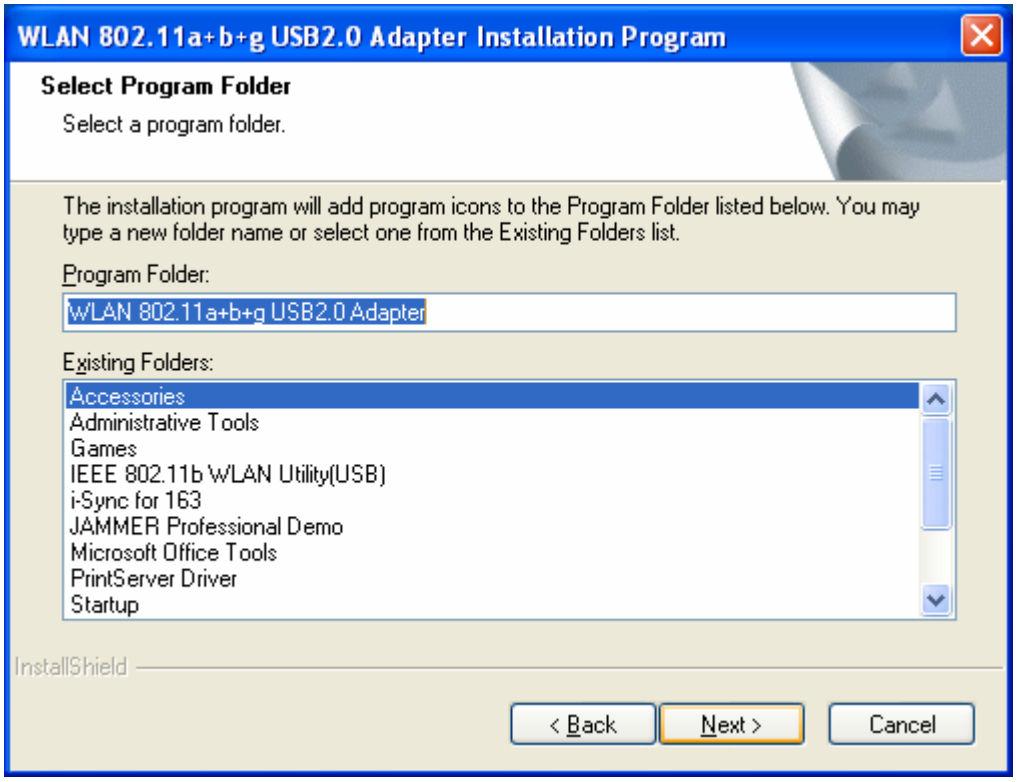
4. **Click Yes**. System reminds you the reboot step.


Question
The option you have selected requires the system to be rebooted at the end of the operation. Do you want to continue?
Yes
No

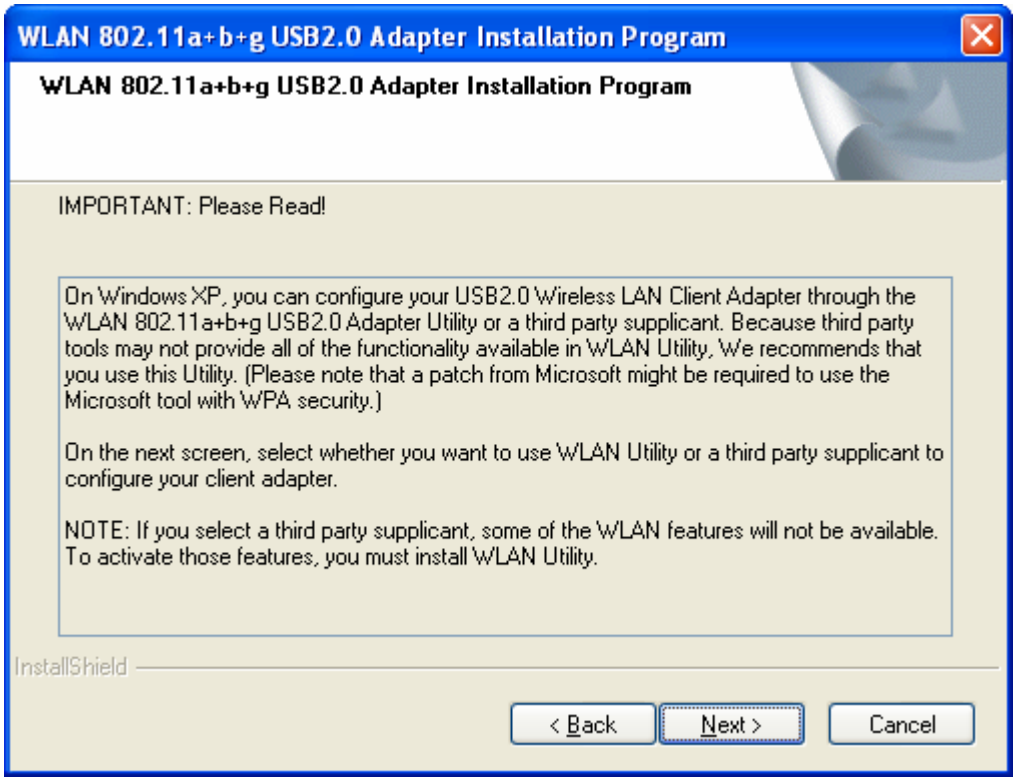
5. **Click Next**. Or click Browse to select the destination folder you prefer.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
Choose Destination Location
Select the folder where the installation program will install the files.
The installation program will install the client utilities in the following location:
Destination Folder
C:\Program Files\WLAN
Browse...
InstallShield
< Back
Next >
Cancel

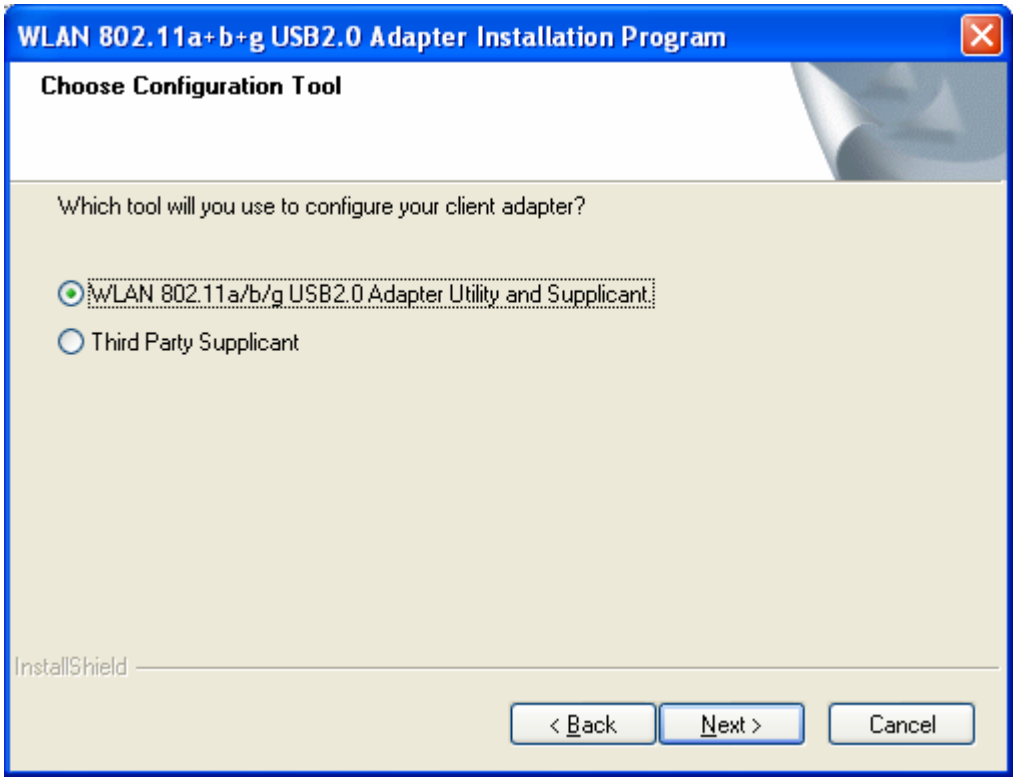
6. **Click Next**. Edit the Program Folder name if necessary.



7. Read the notice and **click Next**.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
WLAN 802.11a+b+g USB2.0 Adapter Installation Program
IMPORTANT: Please Read!
On Windows XP, you can configure your USB2.0 Wireless LAN Client Adapter through the WLAN 802.11a+b+g USB2.0 Adapter Utility or a third party supplicant. Because third party tools may not provide all of the functionality available in WLAN Utility, We recommends that you use this Utility. (Please note that a patch from Microsoft might be required to use the Microsoft tool with WPA security.)
On the next screen, select whether you want to use WLAN Utility or a third party supplicant to configure your client adapter.
NOTE: If you select a third party supplicant, some of the WLAN features will not be available. To activate those features, you must install WLAN Utility.
InstallShield
< Back
Next >
Cancel

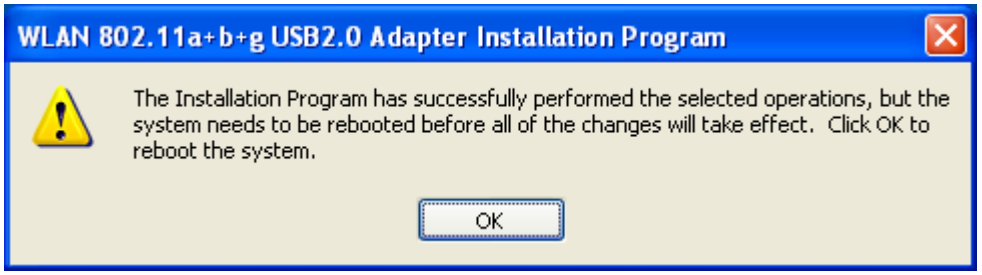
8. **Click Next**. WLAN 802.11a/b/g USB2.0 Adapter Utility is recommended.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
Choose Configuration Tool
Which tool will you use to configure your client adapter?
WLAN 802.11a/b/g USB2.0 Adapter Utility and Supplicant
Third Party Supplicant
InstallShield
< Back
Next >
Cancel

9. **Insert the adapter** and **click OK**.

WLAN 802.11a+b+g USB2.0 Adapter Installation Program
The installation program installs the driver automatically when the client adapter is inserted. Insert the adapter now if it is not yet inserted, cancel the Found New Hardware Wizard if it appears, and proceed with the installation. Click OK to continue.
OK

10. **Click OK** and your PC will restart.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
The Installation Program has successfully performed the selected operations, but the system needs to be rebooted before all of the changes will take effect. Click OK to reboot the system.
OK

11. A short-cut icon appears on the desktop of your PC.

NOTE! *Select "Cancel" when Found New Hardware window appears.*

NOTE! *In Windows XP, it is recommended that you use the WLAN 802.11a/b/g USB2.0 Utility.*

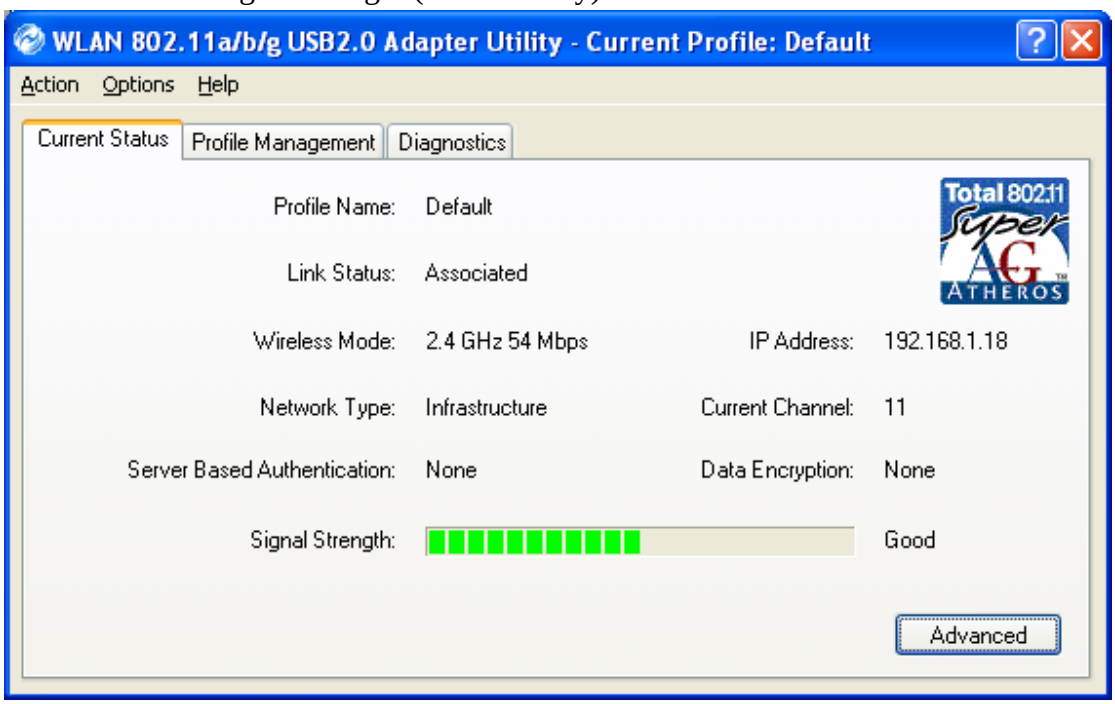
3.2 Connecting to a network

NOTE! For details of Utility Configuration, please refer to Chapter 4.

Status Icons

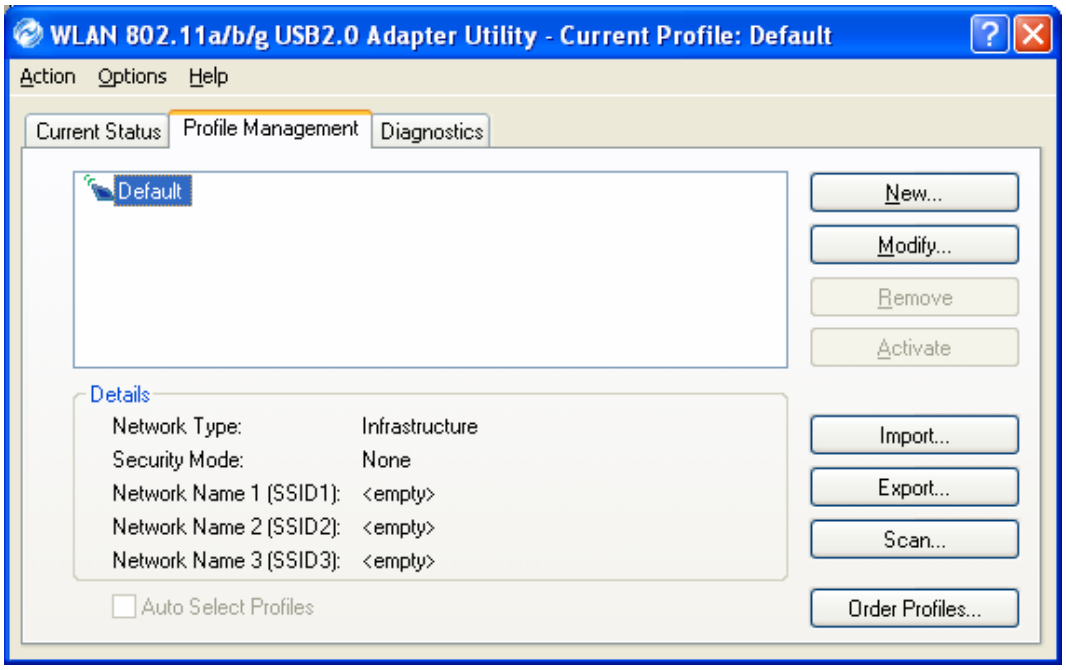
:	Low Signal Strength	:	Ad Hoc Network
:	Medium Signal Strength	:	Infrastructure Network
:	High Signal Strength	:	Infrastructure Network Connected
:	No Signal Strength	:	Profile Activated
:	Radio Off	:	Secured

After restarting your PC, the adapter automatically connects to an unsecured network that has the best signal strength (if there's any). **Profile Name** shows Default.

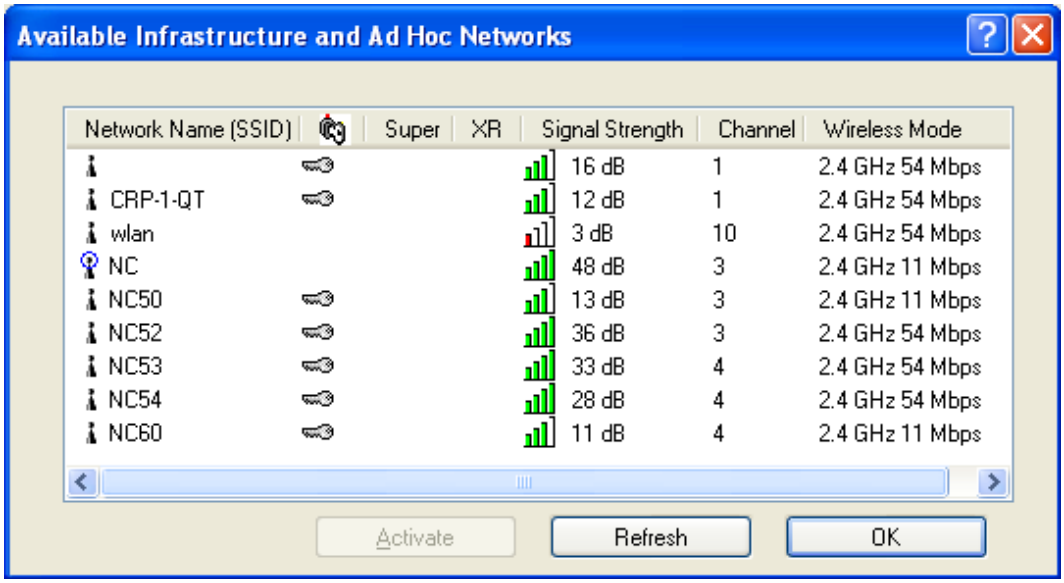


You may also manually assign a network to connect with. Follow the steps below:

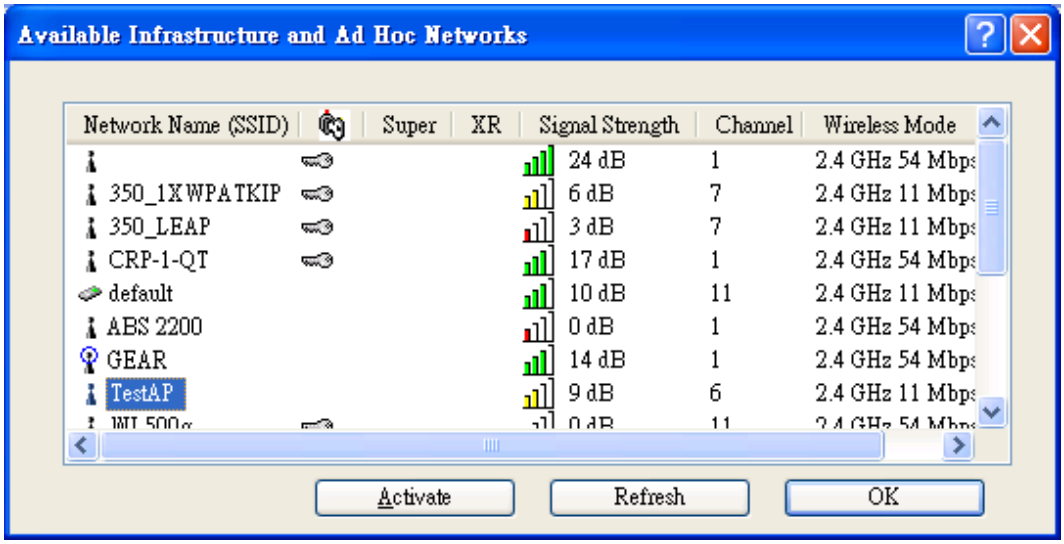
1. Open **WLAN 802.11a/b/g USB 2.0 Adapter Utility** (by double-clicking on the shortcut icon on the desktop), and click **Profile Management** tab.



2. Click **Scan**, and **Available Infrastructure and Ad Hoc Networks** list appears.

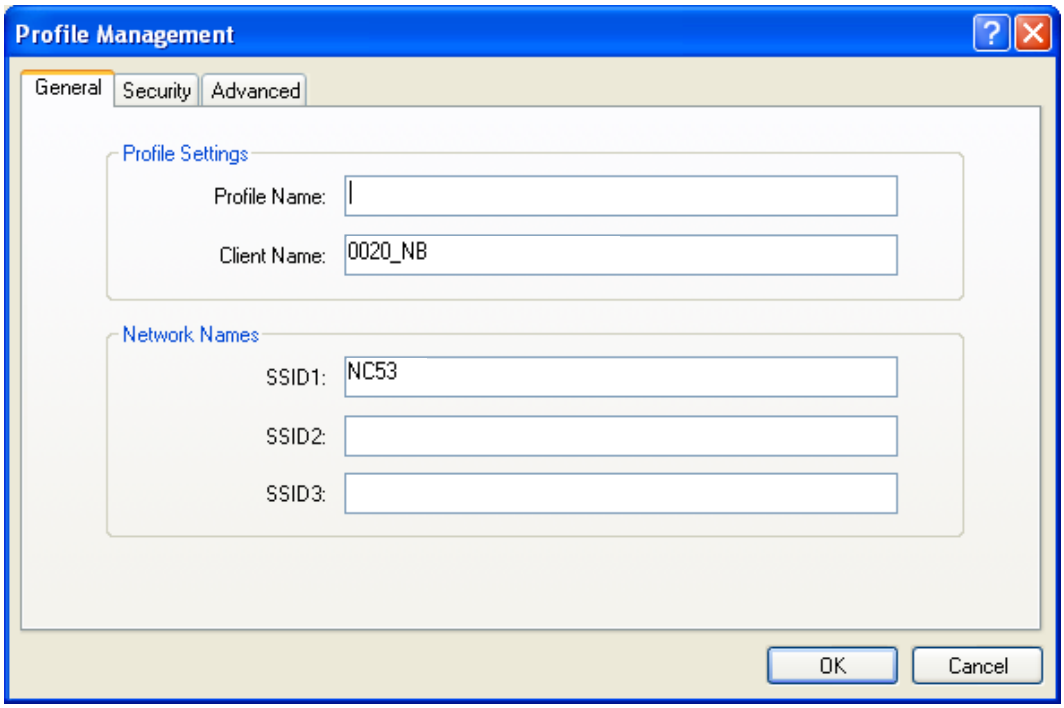

Available Infrastructure and Ad Hoc Networks
Network Name (SSID)
Super
XR
Signal Strength
Channel
Wireless Mode
16 dB 1 2.4 GHz 54 Mbps
CRP-1-QT 12 dB 1 2.4 GHz 54 Mbps
wlan 3 dB 10 2.4 GHz 54 Mbps
NC 48 dB 3 2.4 GHz 11 Mbps
NC50 13 dB 3 2.4 GHz 11 Mbps
NC52 36 dB 3 2.4 GHz 54 Mbps
NC53 33 dB 4 2.4 GHz 54 Mbps
NC54 28 dB 4 2.4 GHz 54 Mbps
NC60 11 dB 4 2.4 GHz 11 Mbps
Activate
Refresh
OK

3. Click the desired network **SSID** and click **Activate**.

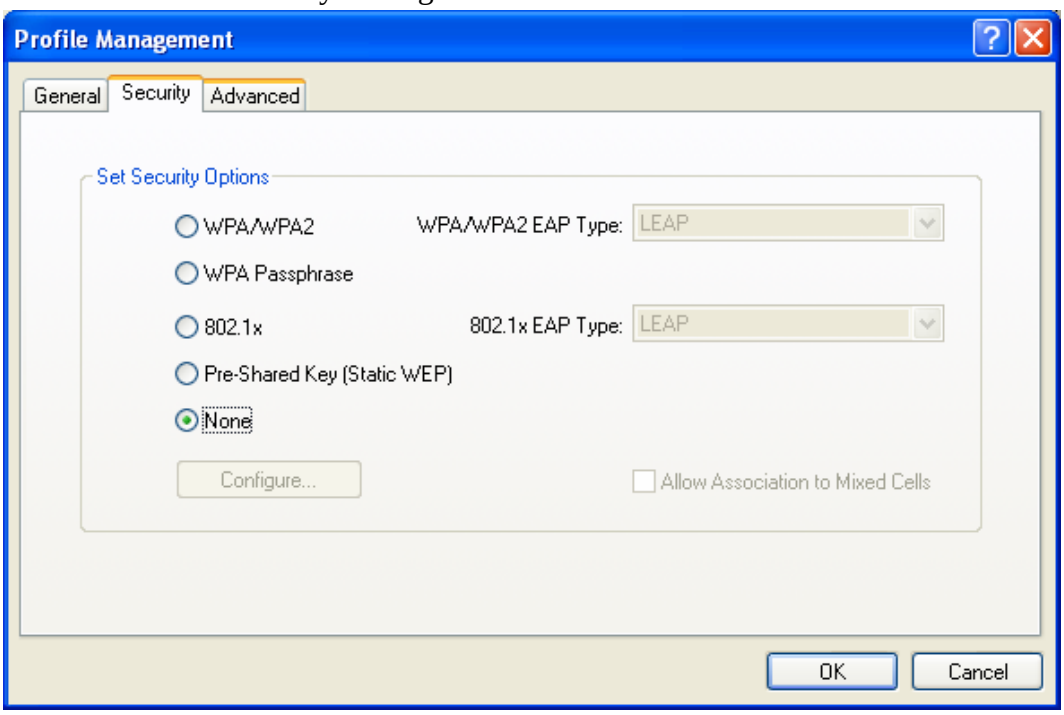

Available Infrastructure and Ad Hoc Networks
Network Name (SSID)
Super
XR
Signal Strength
Channel
Wireless Mode
24 dB 1 2.4 GHz 54 Mbps
350_1XWPATKIP 6 dB 7 2.4 GHz 11 Mbps
350_LEAP 3 dB 7 2.4 GHz 11 Mbps
CRP-1-QT 17 dB 1 2.4 GHz 54 Mbps
default 10 dB 11 2.4 GHz 11 Mbps
ABS 2200 0 dB 1 2.4 GHz 54 Mbps
GEAR 14 dB 1 2.4 GHz 54 Mbps
TestAP 9 dB 6 2.4 GHz 11 Mbps
Activate
Refresh
OK

4. Contact the network administrator for Profile Settings: **General**, **Security** and **Advanced**.

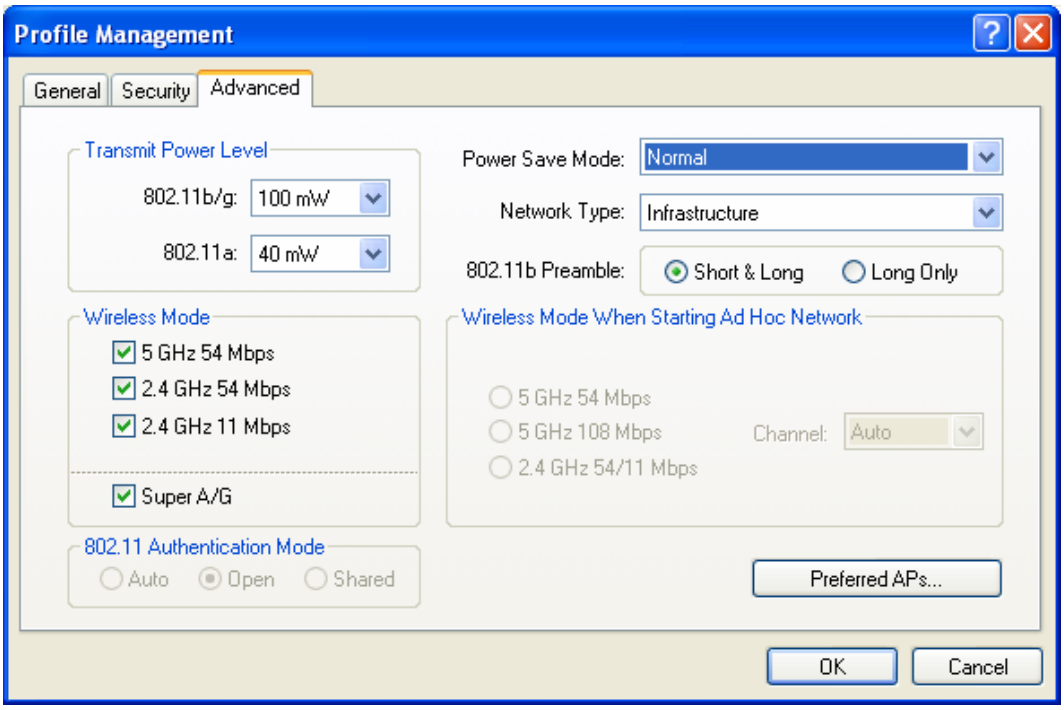
General Tab: Enter a Profile Name and SSID (if necessary).



Security Tab: If the connected network is secured, contact the network administrator for Security Settings.



Advanced Tab: Click Advanced for other network settings.

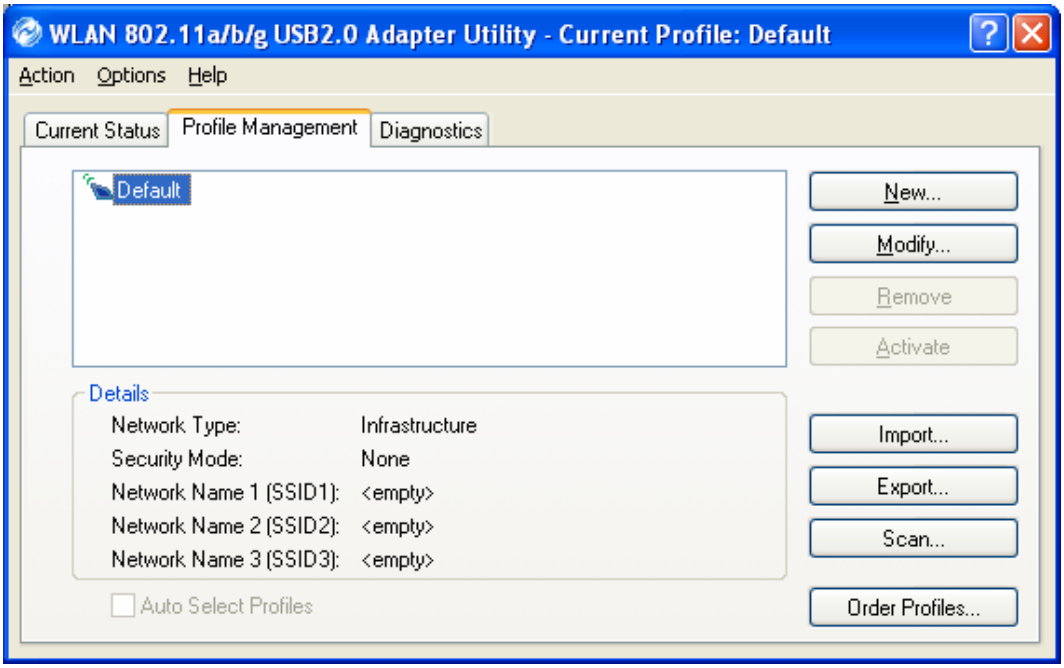


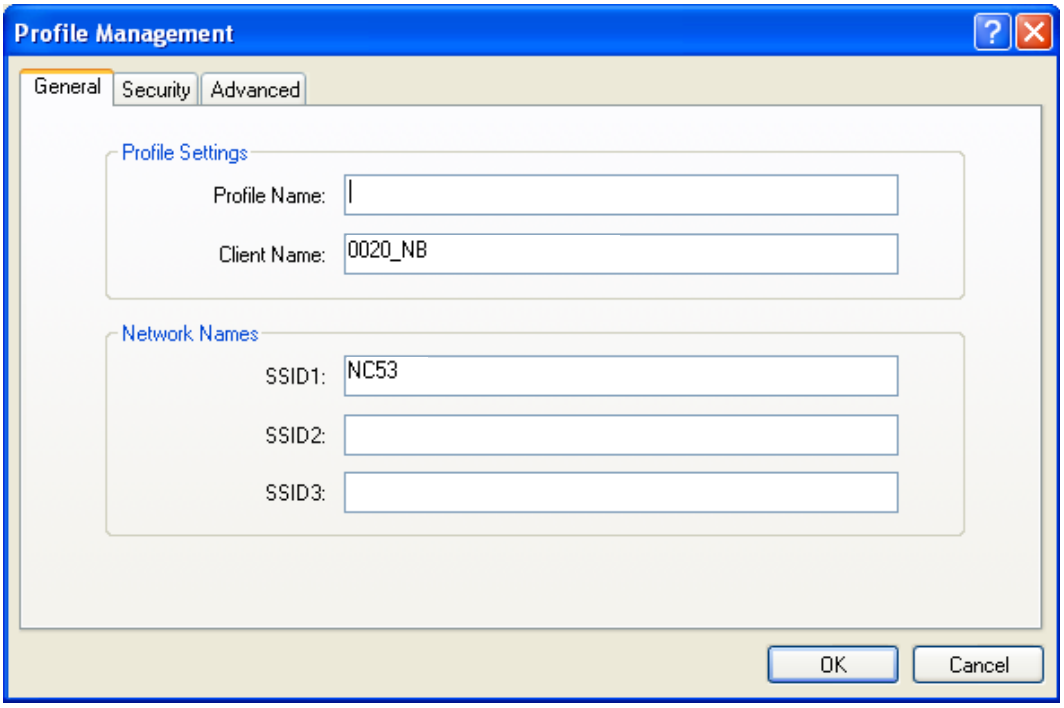
5. Once connected, the status icon in the Windows System Tray appears. You can click **Current Status** tab to check the connection status.

3.3 Creating an Ad Hoc Network

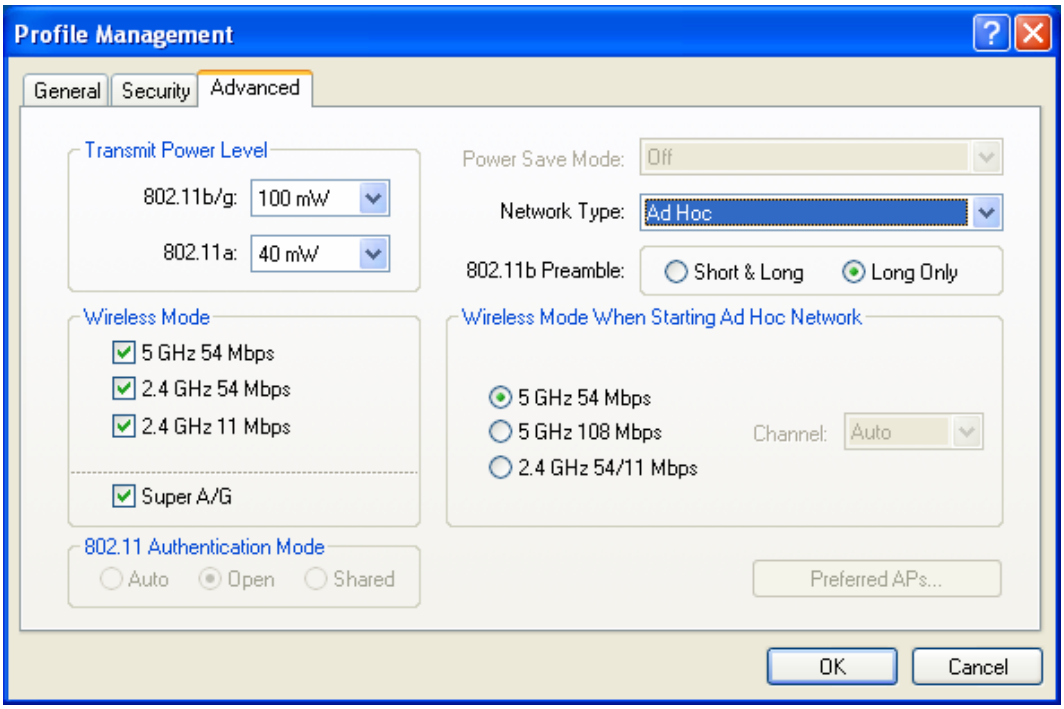
If you have more computers and only want to place them in a local area network, or you want to communicate directly without using an Access Point or any connection to a wired network, you can create a new Ad Hoc Network.

1. In **Profile Management** tab, click **New** button to create a profile.

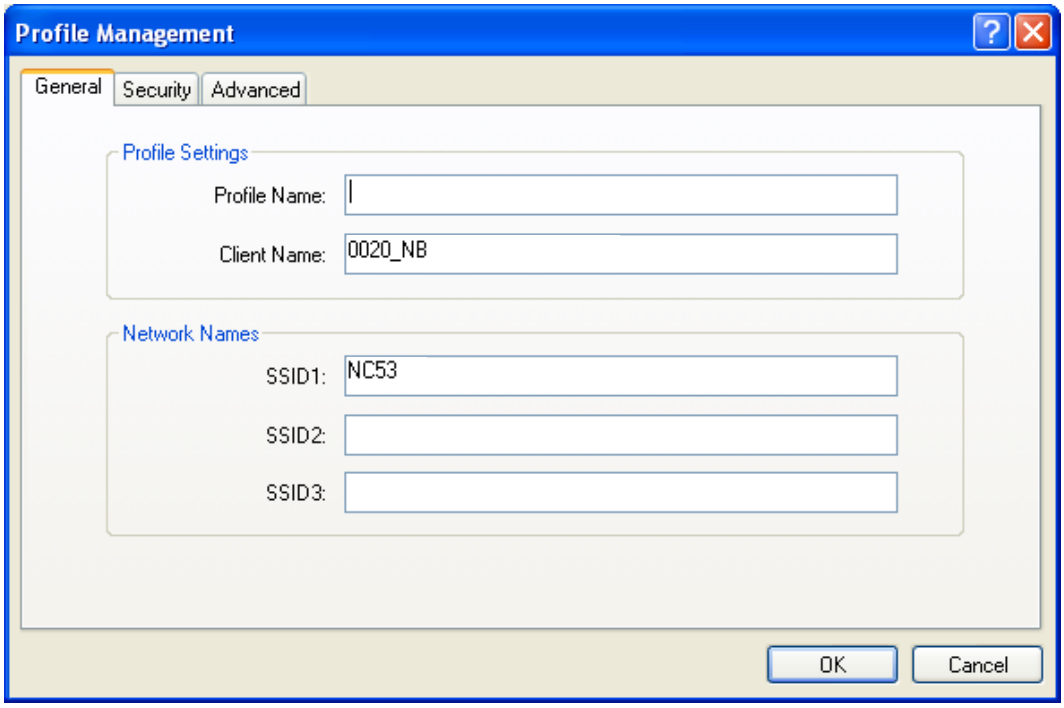




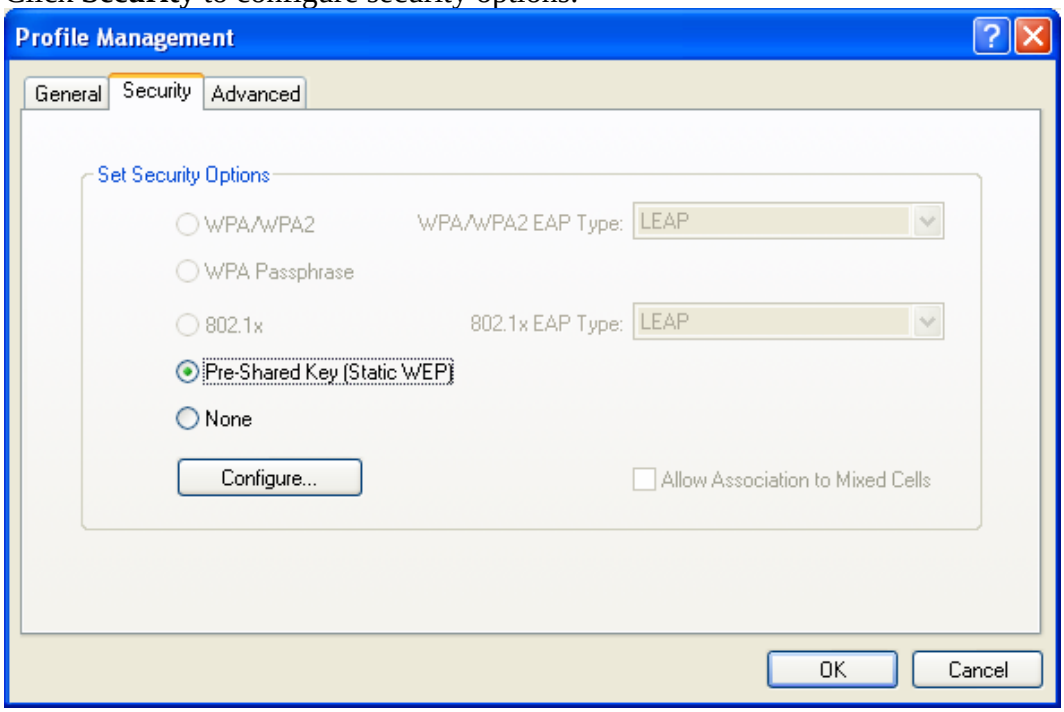
2. Click **Advanced** to switch **Network Type** to **Ad Hoc**.



3. Click **General** to edit the Profile and SSID1 names.



4. Click **Security** to configure security options.



5. Click **OK** button.

3.4 Removing your 802.11a/b/g USB 2.0 Adapter

You can remove the device after you finished the action with the device. However, in Windows XP and Windows 2000, please follow the safe removal procedure. You can find a safe removal icon in your computer's notification area.

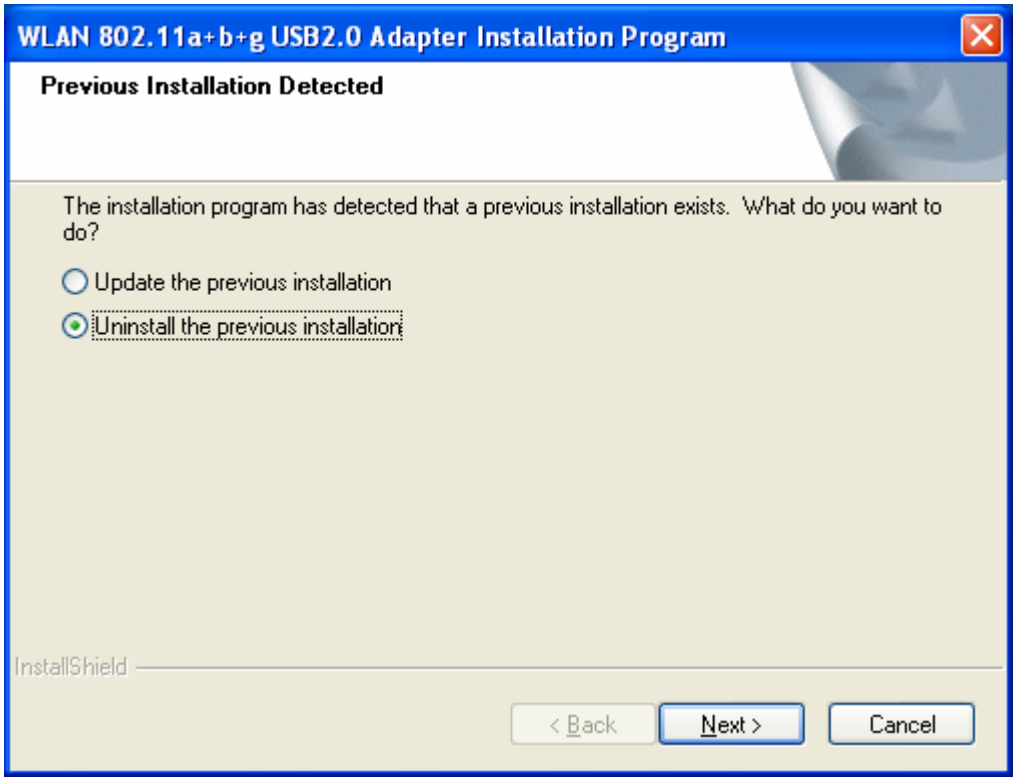
1. Double click the **Safely Remove Hardware** icon.

2. The "**Safely Remove Hardware**" window will pop up. You can select the device you want to remove. Then, click the "**Stop**" button.

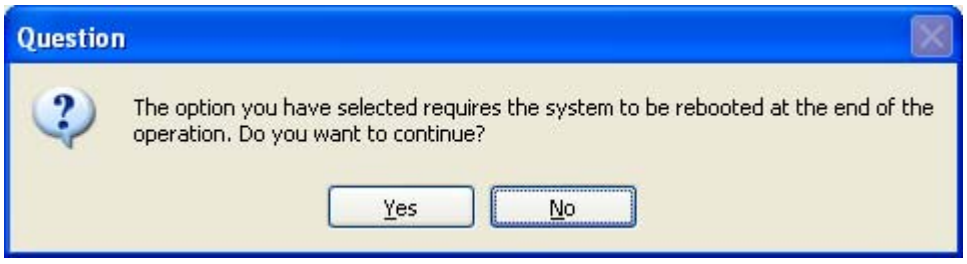
NOTE! *When removing the WLAN 802.11a/b/g USB 2.0 Adapter, you will lose your connection to the network. Make sure you have closed all files and network applications (such as e-mail) before removing the WLAN 802.11a/b/g USB 2.0 Adapter.*

3.5 Uninstallation

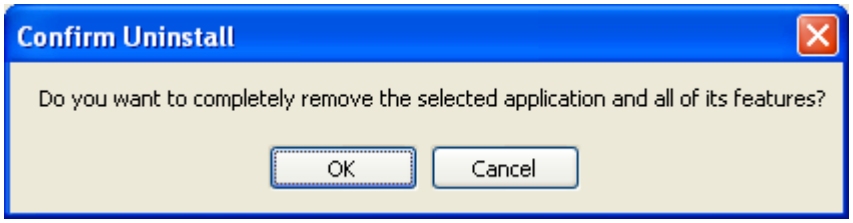
1. Make sure the Utility is closed.
2. Go to Star → Programs → WLAN 802.11a+b+g USB2.0 Adapter → Uninstall Utility.
3. Choose “Uninstall the previous installation” and click **Next**.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
Previous Installation Detected
The installation program has detected that a previous installation exists. What do you want to do?
Update the previous installation
Uninstall the previous installation
InstallShield
< Back
Next >
Cancel

4. Click **Yes**.

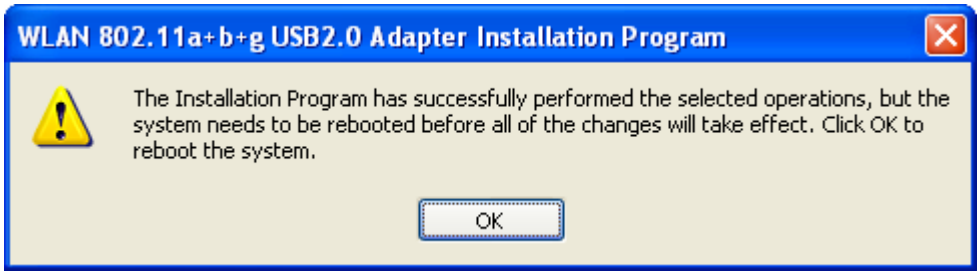

Question
The option you have selected requires the system to be rebooted at the end of the operation. Do you want to continue?
Yes
No

5. Click **OK**.



6. Click **Yes**.

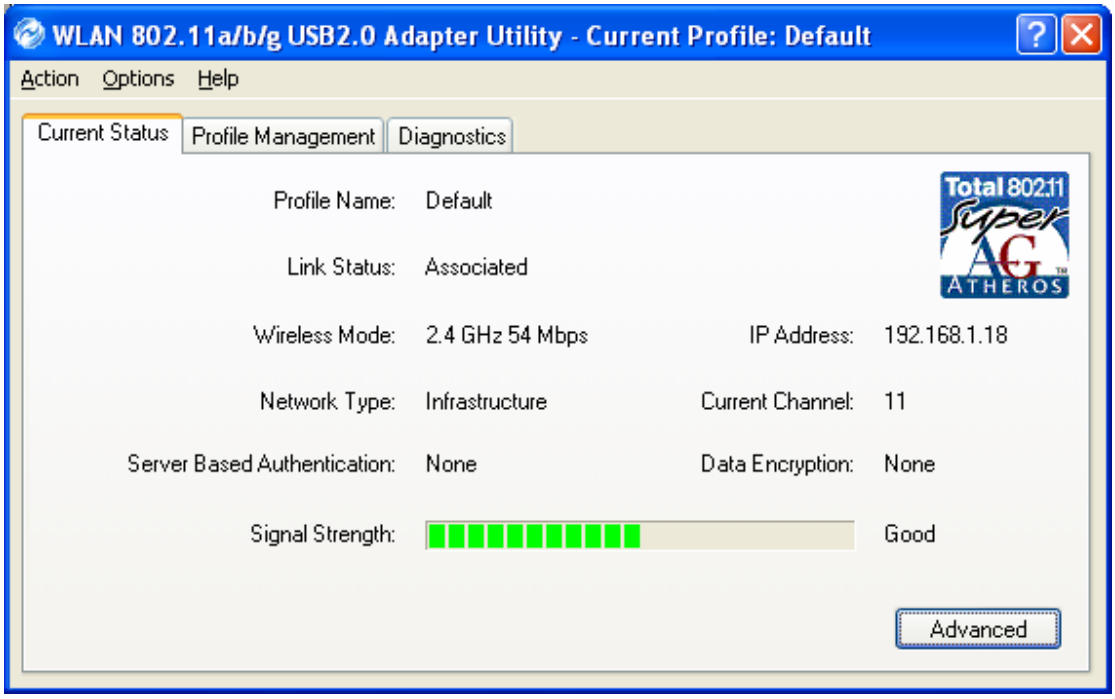
7. Click **OK**, and your PC will restart. Uninstallation is finished.


WLAN 802.11a+b+g USB2.0 Adapter Installation Program
The Installation Program has successfully performed the selected operations, but the system needs to be rebooted before all of the changes will take effect. Click OK to reboot the system.
OK

4. Using the Utility

4.1 Current Status

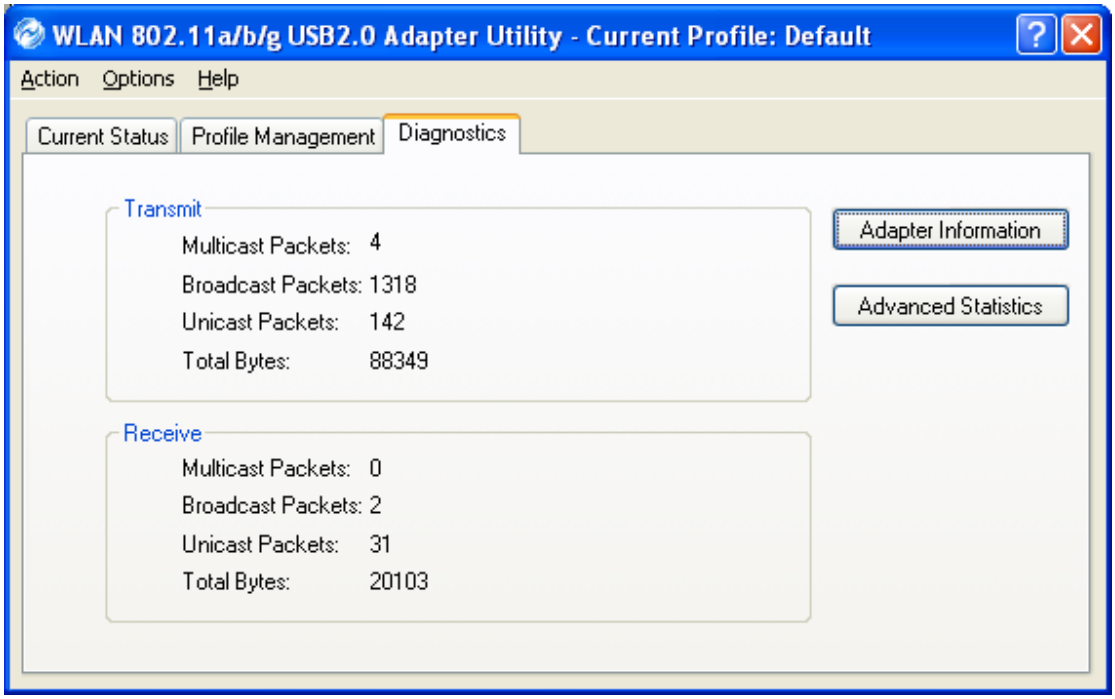
The Current Status tab contains general information about the program and its operations.



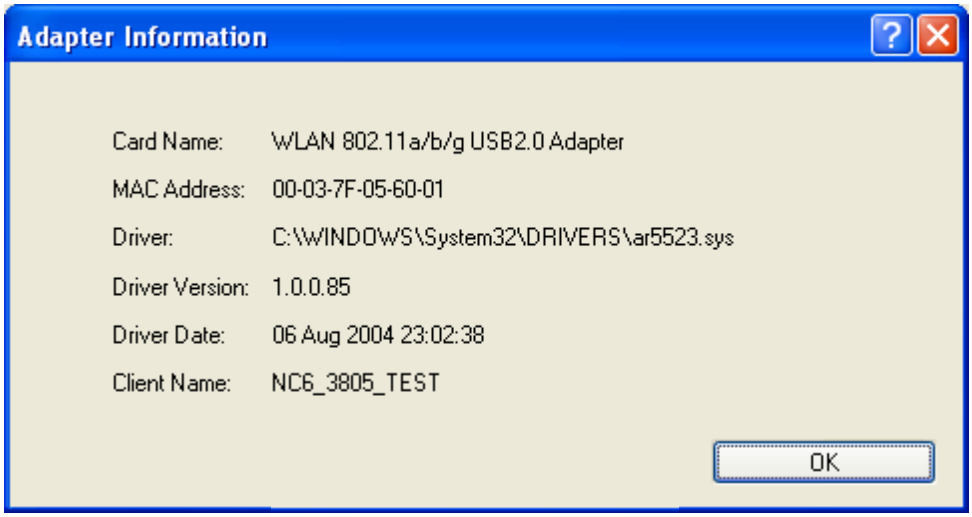
- **Profile Name:** The name of the current selected configuration profile. If you see Default in Profile Name, it is because you do not assign a specific SSID, and the adapter automatically searches and connects to the most suitable network. You can configure the profile name through Profile Management →Modify→General.
- **Link Status:** Shows whether or not the station is associated to the wireless network.
- **Wireless Mode:** Displays the wireless mode. You can configure the wireless mode through Profile Management →Modify→Advanced.
- **IP Address:** Displays the computer's IP address.
- **Network Type:** The type of network the station is connected to. The options include infrastructure and Ad Hoc. You can configure the network type through Profile Management →Modify→Advanced.
- **Current Channel:** Shows the currently connected channel.
- **Server Based Authentication:** Shows whether server based authentication is used.
- **Data Encryption:** Displays the encryption type the driver is using. You can configure Data Encryption through Profile Management →Modify→Security.
- **Signal Strength:** Shows the strength of the signal.

4.2 Diagnostics

In Diagnostics tab, you can check Transmit and Receive Data: Multicast Packets, Broadcast Packets, Unicast Packets and Total Bytes.

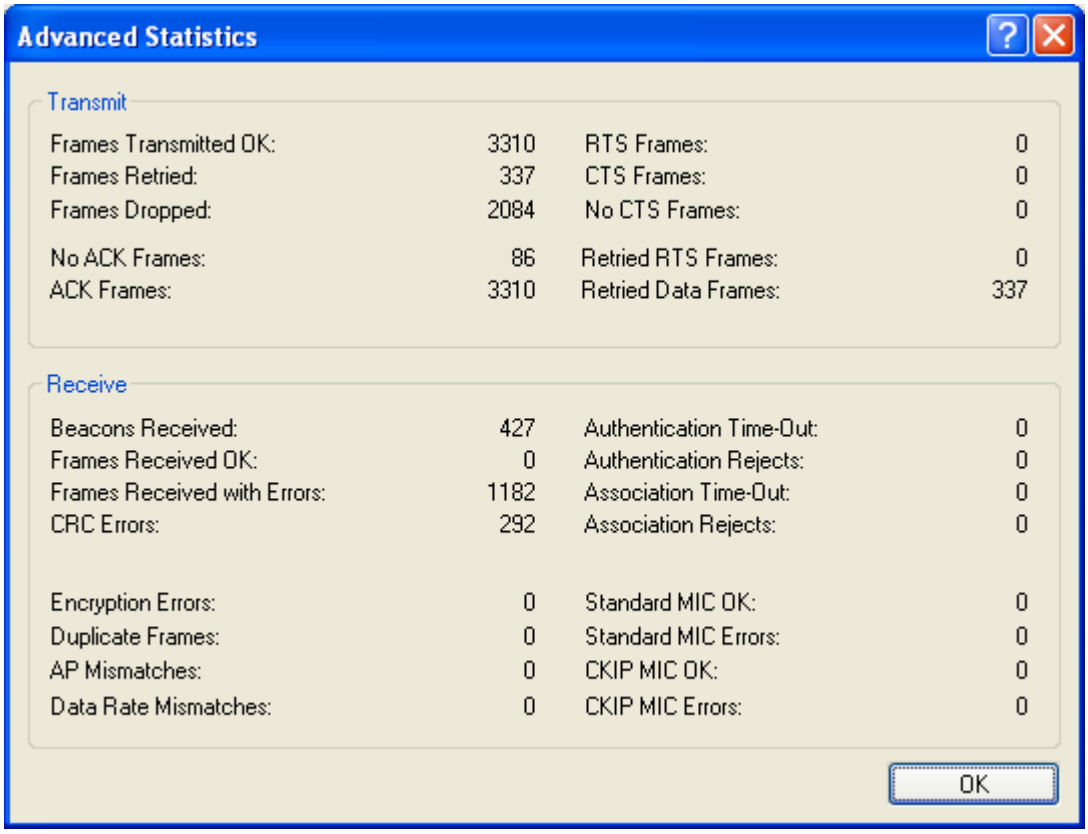


Adapter Information



- **Card Name:** The name of the wireless network adapter.
- **MAC Address:** The MAC address of the wireless network adapter.
- **Driver:** The driver name and path of the wireless network adapter driver.
- **Driver Version:** The version of the wireless network adapter driver.
- **Driver Date:** The creation date of the wireless network adapter driver.
- **Client Name:** The name of the client computer.

Advanced Statistics: Shows receive and transmit statistical information for the following receive and transmit diagnostics for frames received by or transmitted to the wireless network adapter:



Transmitted Frames:

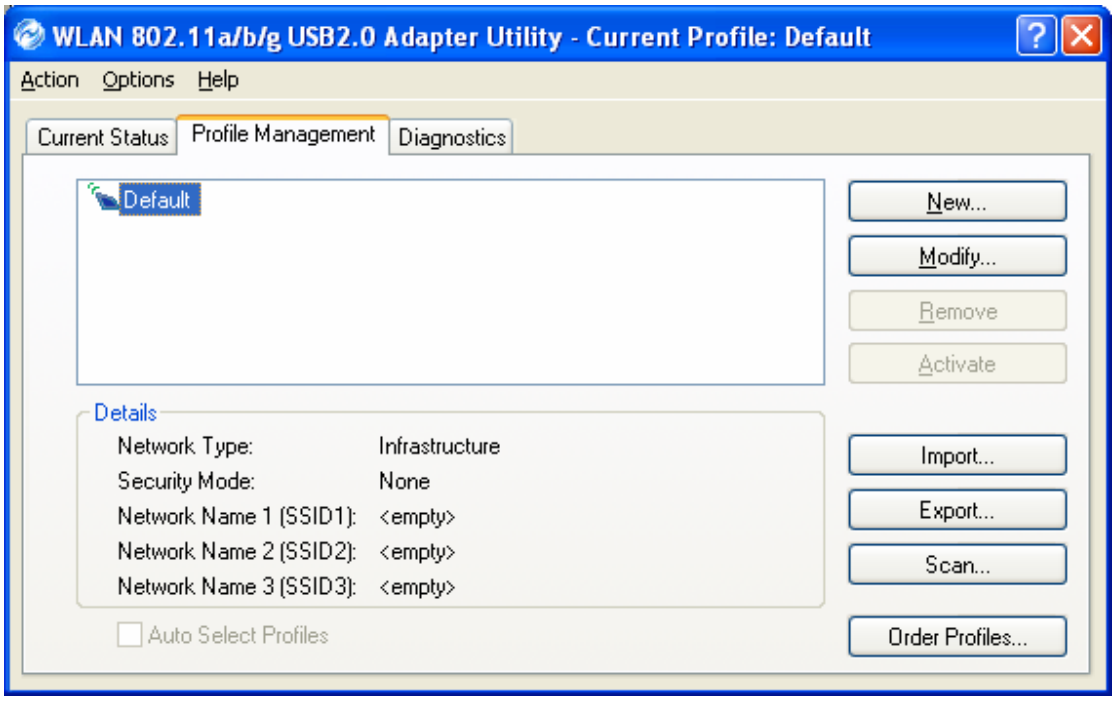
- Frames transmitted OK
- Frames retried
- Frames dropped
- No ACK frames
- ACK frames
- RTS Frames
- Clear-to-send (CTS) Frames
- No CTS frames
- Retried RTS frames
- Retried data frames

Received Frames:

- Frames received OK
- Beacons
- Frames with errors

- CRC errors
- Encryption errors
- Duplicate frames
- AP mismatches
- Data rate mismatches
- Authentication time-out
- Authentication rejects: the number of AP authentication failures received by the wireless network adapter
- Association time-out
- Association rejects: the number of access point authentication rejects received by the wireless network adapter
- Standard MIC OK
- Standard MIC errors
- CKIP MIC OK
- CKIP MIC errors

4.3 Profile Management



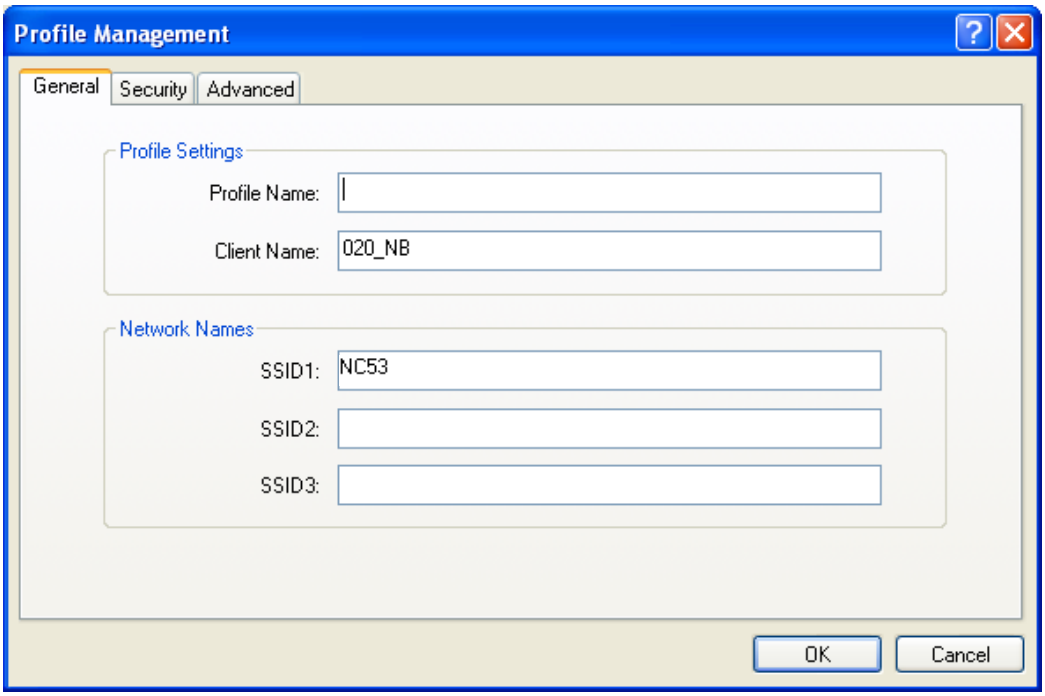
- **Network Type**: Indicates whether the current activated network type is Infrastructure or Ad Hoc mode.
- **Security Mode**: Indicates current connected network's security mode.
- **Network Name**: Indicates current connected network's name.
- **New**: To create new profile.

- **Modify**: To edit settings of chosen profile.
- **Remove**: To remove the chosen profile from the list.
- **Activate**: To activate the chosen profile.
- **Import**: To import a pre-set profile (pre-saved as a Config File *.prf)
- **Export**: To export the chosen profile, so you can save the profile as a Config File (*.prf) for future use.

- **Scan**: To scan all available network in vicinity.
- **Order Profiles**: To place the order of preferred profiles.

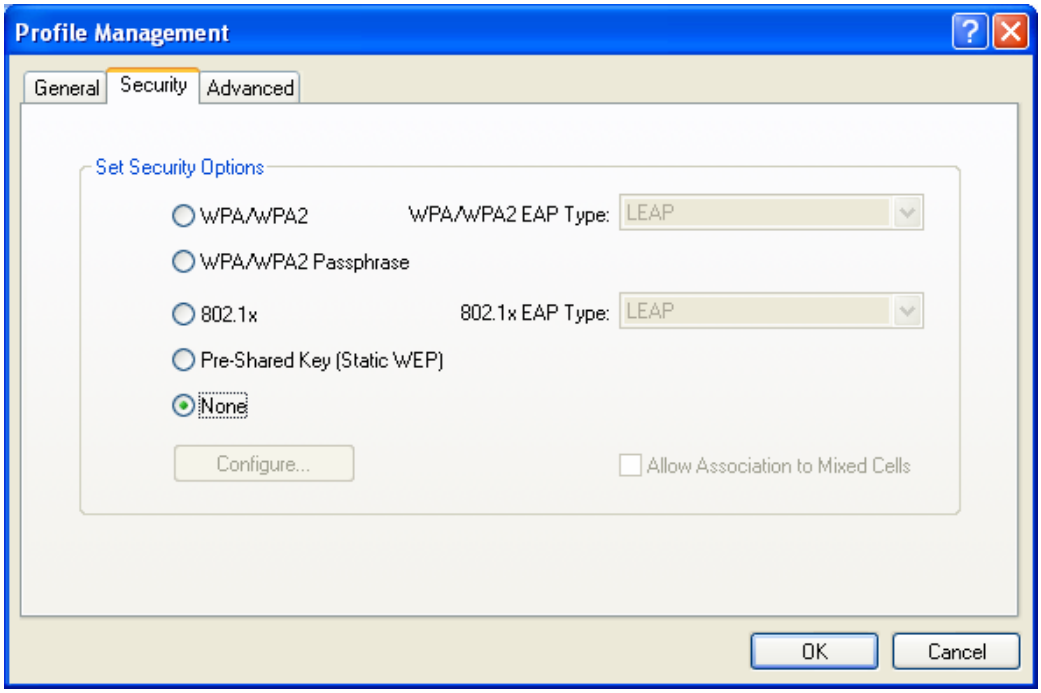
4.3.1 Creating or Modifying a Configuration Profile

1. To add a New configuration profile, click **New** on the Profile Management tab. To modify a configuration profile, select the configuration from the Profile list and click the **Modify** button.
2. The Profile Management dialog box displays the **General**, **Security** and **Advanced** tabs.
3. Edit the fields in the **General** tab to configure the configuration profile.



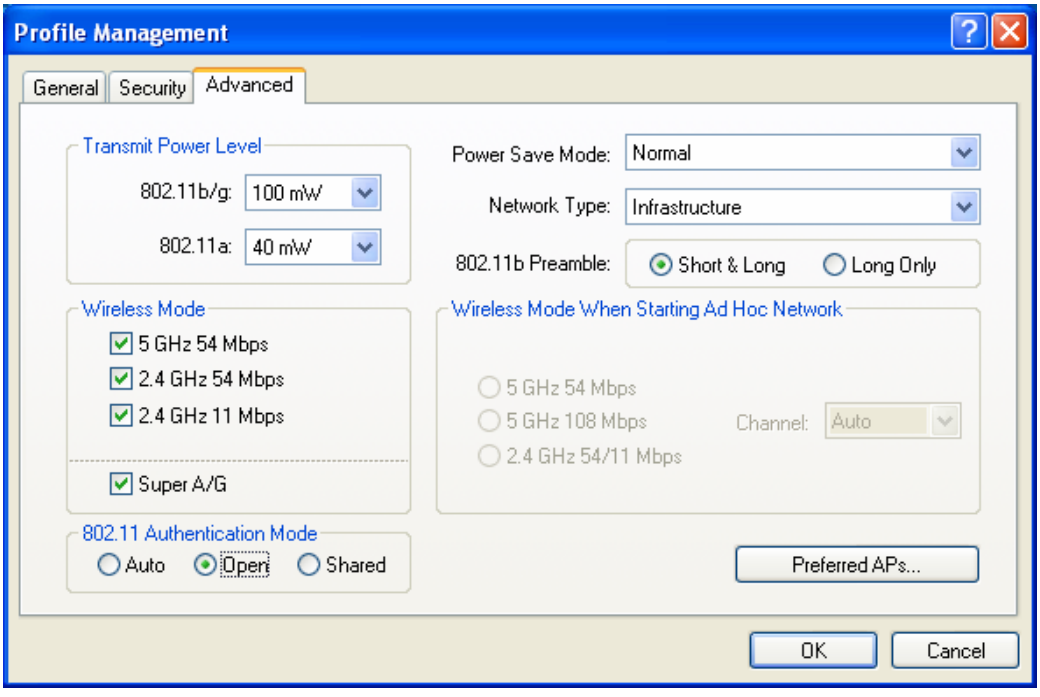
- **Profile Name**: Identifies the configuration profile. This name should be ***unique***. Profile names are not case sensitive.
- **Client Name**: Identifies the client machine.
- **Network Names (SSIDs)**: The IEEE 802.11 wireless network name. This field has a maximum limit of 32 characters. Configure up to ***three*** SSIDs (SSID1, SSID2, SSID3).

4. Edit the fields in the **Security** tab to configure the configuration profile.



- **WPA**: Enables the use of Wi-Fi Protected Access (WPA).
- **WPA Passphrase**: Enables WPA Passphrase security. Click on the **Configure** button and fill in the WPA Passphrase.
- **802.1x**: Enables 802.1x security. This option requires IT administration.
- **Pre-Shared Key (Static WEP)**: Enables the use of pre-shared keys that are defined on both the access point and the station.
- **None**: No security (not recommended).

5. Edit the fields in the **Advanced** tab to configure the configuration profile.



- **Transmit Power Level**: Selects the transmit power level for 802.11b/g or 802.11a in mW. Actual transmit power may be limited by regulatory domain or hardware limitations.
- **Power Save Mode**: Specify:
  - ✓ **Maximum** mode: causes the access point to buffer incoming messages for the wireless adapter. The adapter up periodically polls the access point to see if any messages are waiting.
  - ✓ **Normal** mode: uses maxim when retrieving a large number of packets, then switches back to power save mode after retrieving the packets.
  - ✓ **Off**: turns power saving off, thus powering up the wireless adapter continuously for a short message response time.
- **Network Type**: Specifies the network as either Infrastructure or Ad Hoc.
- **802.11b Preamble**: Specifies the preamble setting in 802.11b. The default setting is **Short & Long** (access point mode), which allows both short and long headers in the 802.11b frames. The adapter can only use short radio headers if the access point supports and uses them. Set to **Long Only** to override allowing short frames.

- **Wireless Mode**: Specifies 5GHz 54Mbps, 2.4GHz 54Mbps, 2.4GHz 11Mbps, or Super A/G operation in an access point network. The wireless adapter must match the wireless mode of the access point it associates to.
- **Wireless Mode when Starting Ad Hoc Network**: Specifies 5GHz 54Mbps, 5GHz 108Mbps, or 2.4GHz 54/11Mbps, to start an Ad Hoc network if no matching network name is found after scanning all available modes. This mode also allows selection of the channel the wireless adapter uses. The channels available depend on the regulatory domain. If the adapter finds no other ad hoc adapters, this selection specifies which channel with the adapter starts the Ad Hoc network with. The wireless adapter must match the wireless mode of the access point it associates to.
- **802.11 Authentication Mode**: Select what mode the wireless adapter uses to authenticate to an access point:
  - ✓ **Auto**: causes the adapter to attempt authentication using shared, but switches it to open authentication if shared fails.
  - ✓ **Open**: enables an adapter to attempt authentication regardless of its WEP settings. It will only associate with the access point if the WEP keys on both the adapter and the access point match.
  - ✓ **Shared**: only allows the adapter to associate with access points that have the same WEP key.

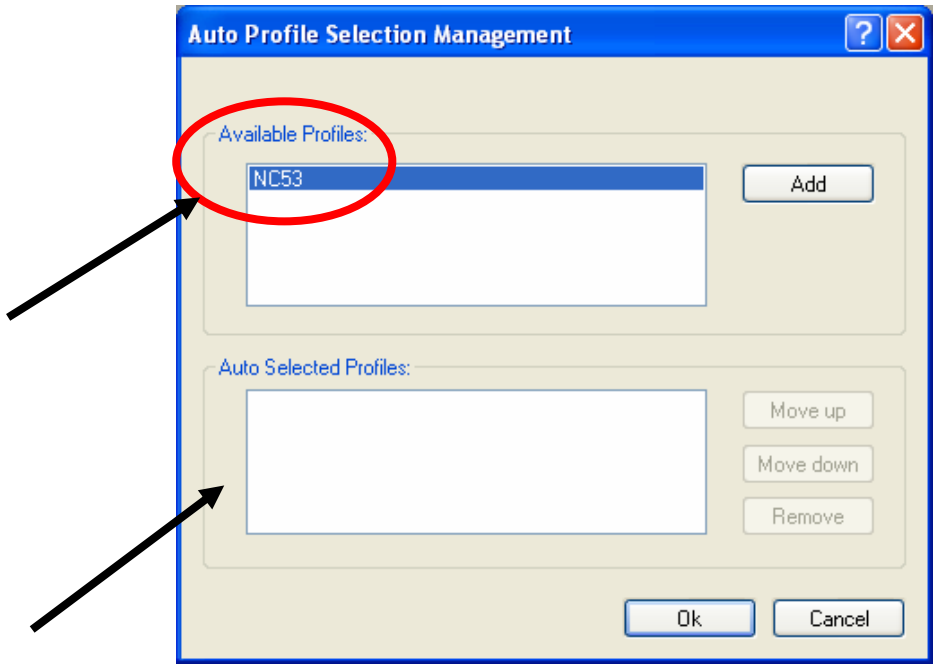
4.3.2 Removing a Profile

1. Go to the **Profile Management** tab.
2. Select the profile to remove from the list of configuration profiles.
3. Click **Remove**.

4.3.3 Profile Auto Selection

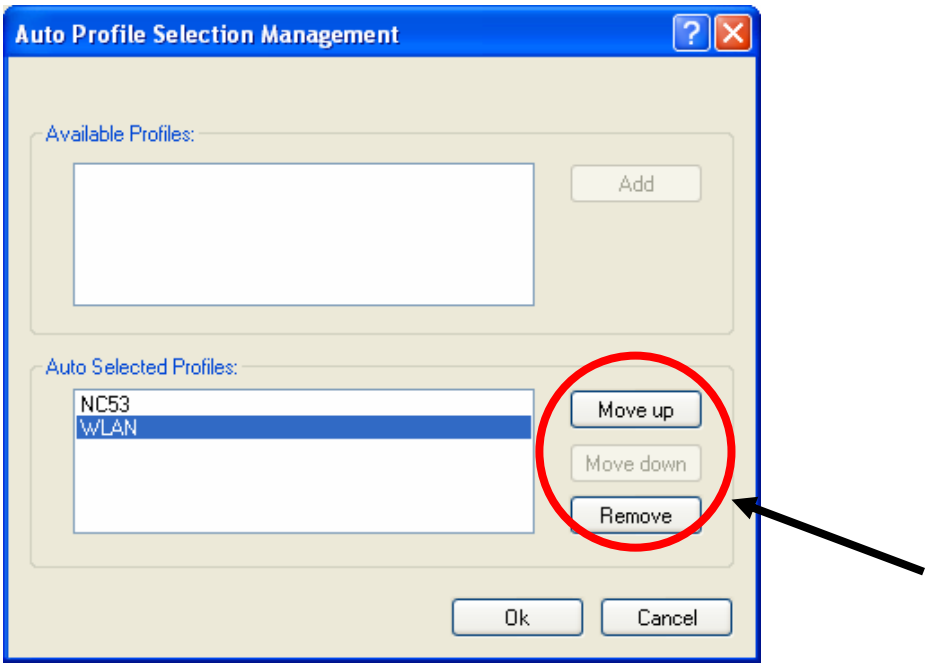
- Including a profile in the auto selection feature allows the wireless adapter to automatically select that profile from the list of profiles and use it to connect to the network.
- Including a profile in auto profile selection:

1. On the **Profile Management** tab, click **Order Profiles**.
2. The **Auto Profile Selection Management** window pops up, with a list of all created profiles in the **Available Profile** box.
3. Highlight the profiles to add to Auto Profile selection, and then click **Add**. The profiles appear in the **Auto Selected Profiles** box.



■ Ordering the auto selected profiles:

1. On the **Profile Management** tab, click **Order Profiles**.
2. Highlight a profile in the **Auto Selected Profiles** box.
3. Click **Move up** or **Move down** as appropriate.



4. Click **OK**.
5. Check the **Auto Selected Profiles** box.
6. Save the modified configuration file.
7. With Auto Profile Selection enabled, the wireless adapter scans for available networks. The highest priority profile with the same SSID as a found network is used to connect to the network. On a failed connection, the client adapter tries with the next highest priority profile.

NOTE! When **Auto Profile Selection** is enabled by checking **Auto Select Profiles** on the **Profile Management** tab, the client adapter scans for an available network. The profile with the highest priority and the same SSID as one of the found networks is the one that is used to connect to the network. If the connection fails, the client adapter tries the next highest priority profile that matches the SSID, and so on.

4.3.4 Switching Profiles

1. To switch to a different profile, go to the **Profile Management** tab.
2. Click on the Profile Name in the **Profile List**.
3. Click **Activate**.
4. The Profile List provides icons that specify the Operational State for that profile.

The list also provides icons that specify the Signal Strength for that profile.

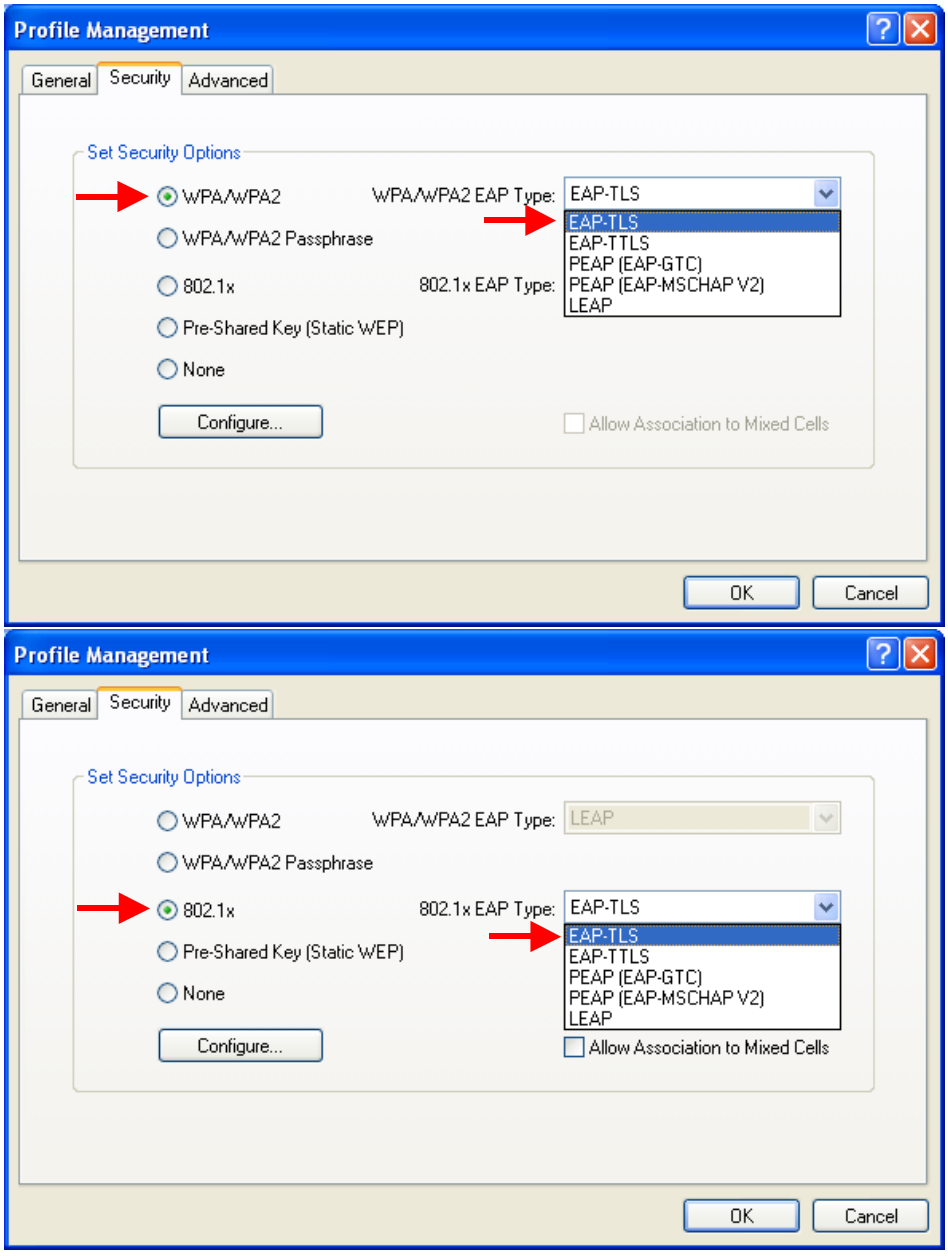
4.4 Security

You may select **WPA**, **WPA Passphrase**, **802.1x**, **Pre-Shared Key** or **None**.

4.4.1 Using EAP-TLS Security

To use **EAP-TLS** security in the Utility, access the **Security** tab in the **Profile Management** window.

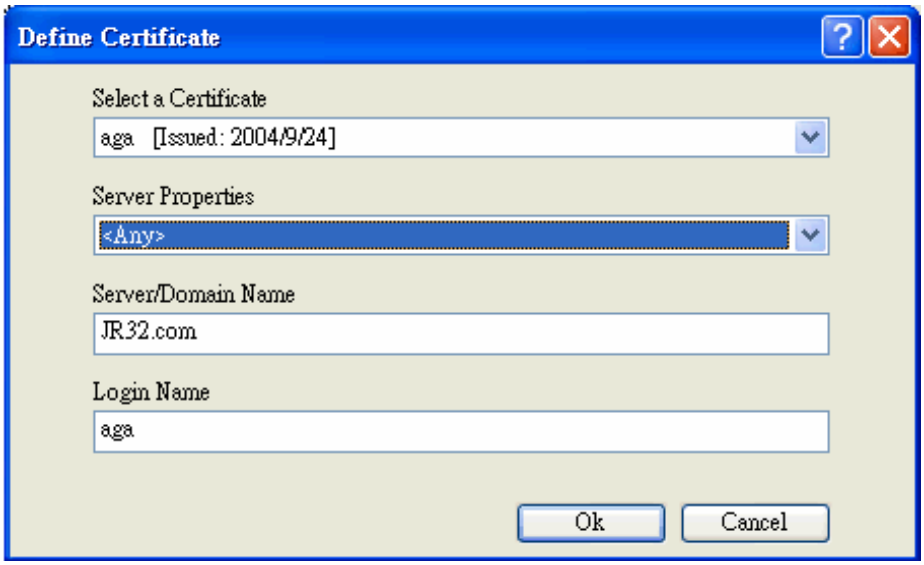
1. On the Security tab, click **WPA/WPA2** or **802.1x**.
2. Select **EAP-TLS** from the drop-down menu.



4.4.2 Enabling EAP-TLS Security

To use EAP-TLS security, the machine must already have the EAP-TLS certificates downloaded onto it. Check with the IT manager.

1. Click **Configure**.

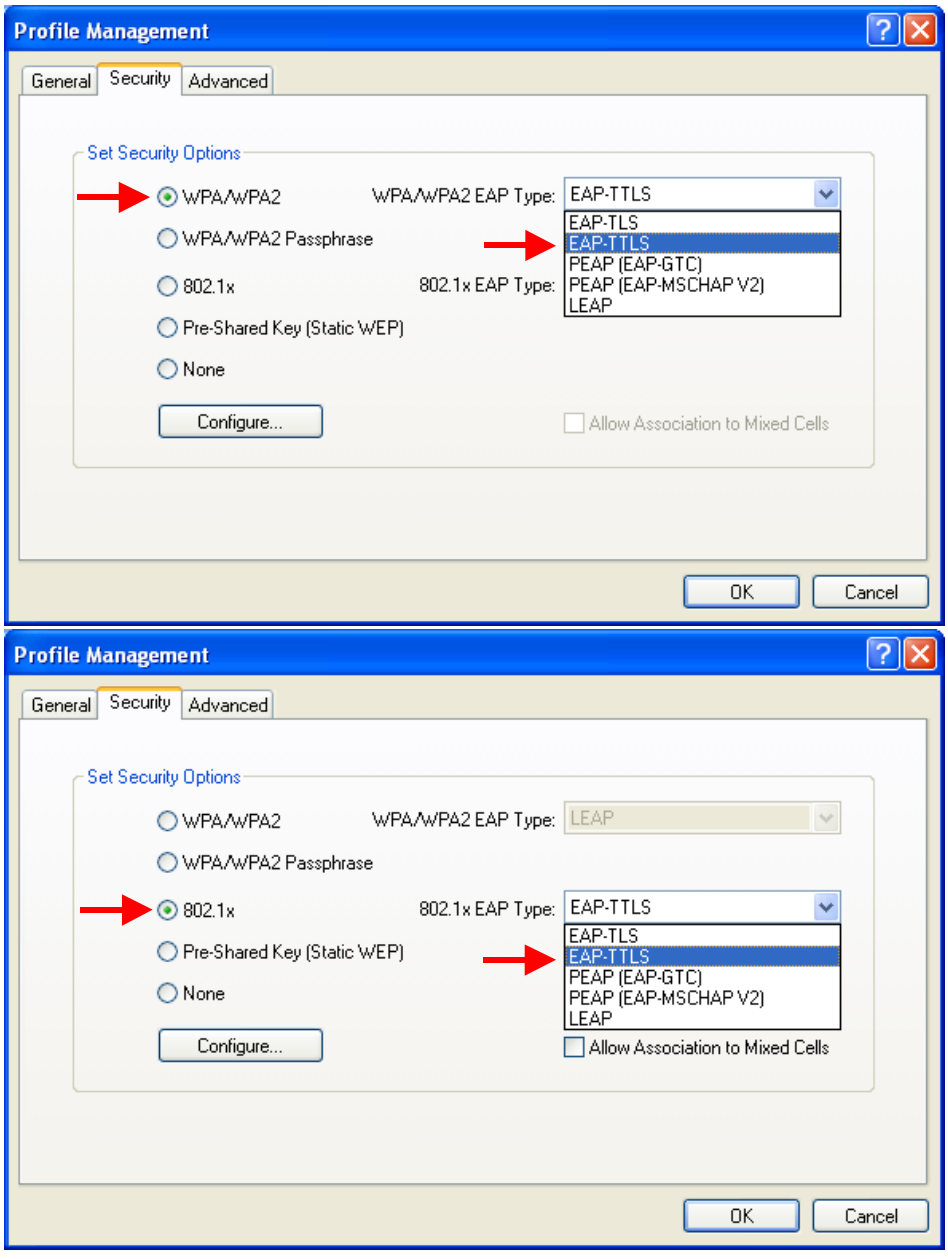


2. Select the appropriate certificate authority. Select Server Properties. The Server/Domain Name and the Login Name are filled in automatically from the certificate information.
3. Click **OK** again.
4. Activate the profile.

4.4.3 Using EAP-TTLS Security

To use **EAP-TTLS** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.

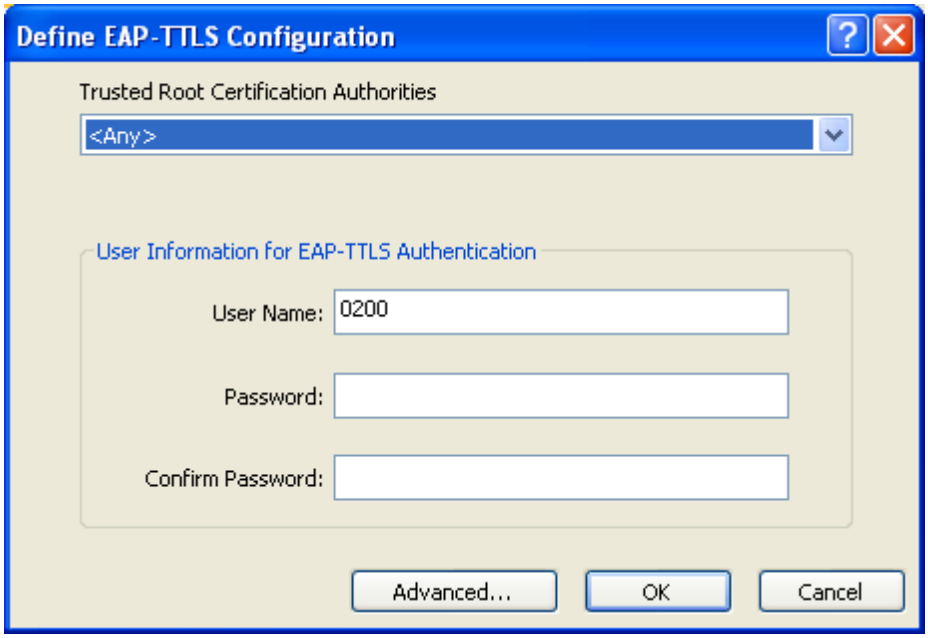
1. On the Security tab, click **WPA/WPA2** or **802.1x**.
2. Select **EAP-TTLS** from the drop-down menu.



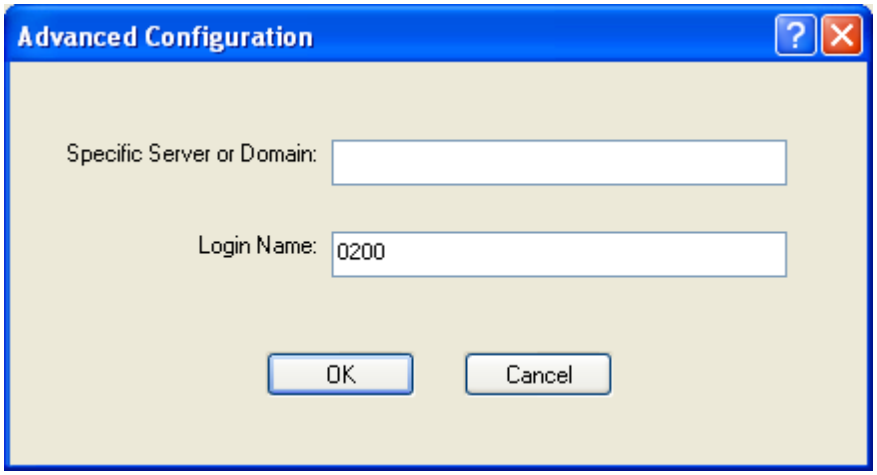
4.4.4 Enabling EAP-TTLS Security

To use EAP-TTLS security, the machine must already have the EAP-TTLS certificates downloaded onto it. Check with the IT manager.

1. Click **Configure**.



2. Select the appropriate certificate from the drop-down list and click **OK**.
3. Specify a user name for EAP authentication:
   - ✓ Enter an EAP user name in the User Name field to use a separate user name and password and start the EAP authentication process.
4. Click **Advanced** and:



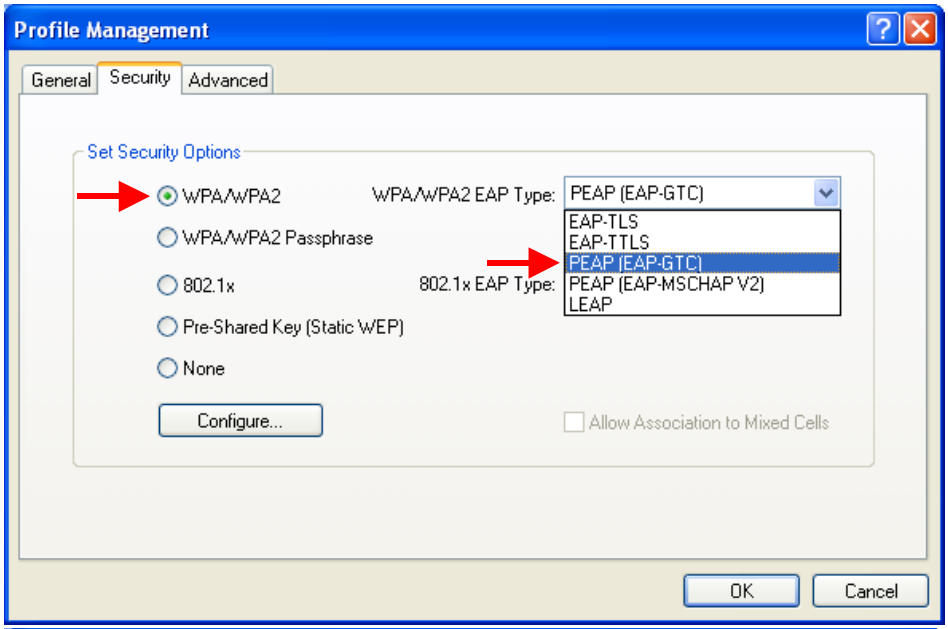
   - ✓ Enter the Specific Server or Domain name of the server from which the client will accept a certificate.
   - ✓ Change the login name if needed.
5. Click **OK**.

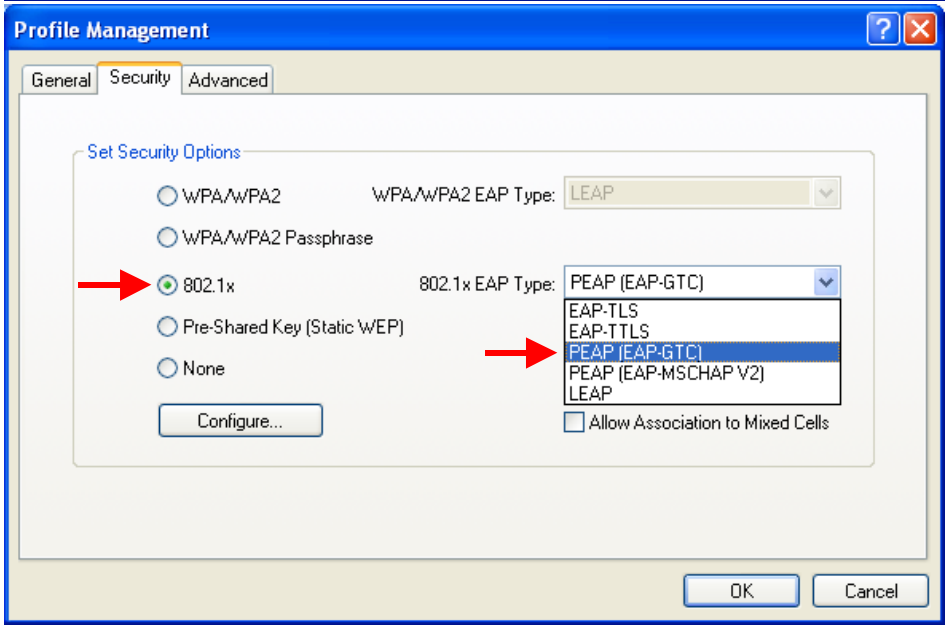
6. Enable the profile.

4.4.5 Using PEAP(EAP-GTC) Security

To use **PEAP-GTC** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.

1. On the Security tab, click **WPA/WPA2** or **802.1x**.
2. Select **PEAP(EAP-GTC)** from the drop-down menu.

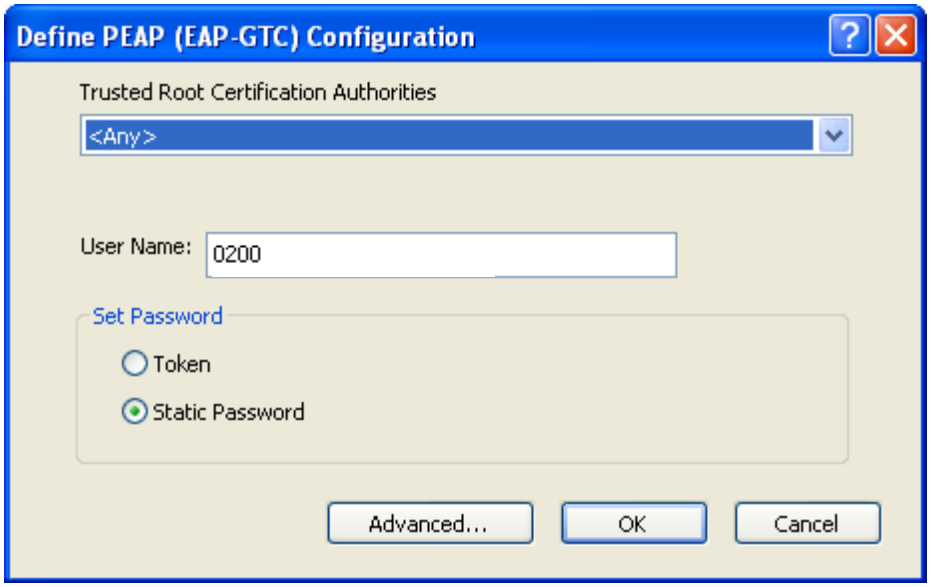




4.4.6 Enabling PEAP(EAP-GTC) Security

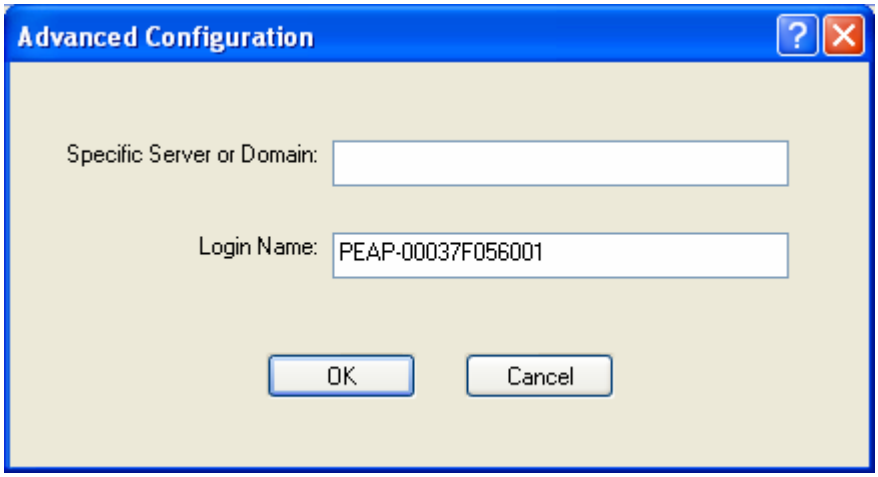
To use PEAP-GTC security, the server must have the PEAP-GTC certificates, and the server properties must already be set. Check with the IT manager.

1. Click **Configure**.
2. Select the appropriate network certificate authority from the drop-down list.



3. Specify a user name for inner PEAP tunnel authentication:
   - ✓ Enter a PEAP user name in the User Name field to use a separate user name and start the PEAP authentication process.
4. Select **Token** or **Static Password**, depending on the user database.

   NOTE! *Token uses a hardware token device or the Secure Computing SofToken program (version 1.3 or later) to obtain and enter a one-time password during authentication.*
5. Click **Advanced** and:



   - ✓ Enter the Specific Server or Domain name of the server from which the client will accept a certificate.

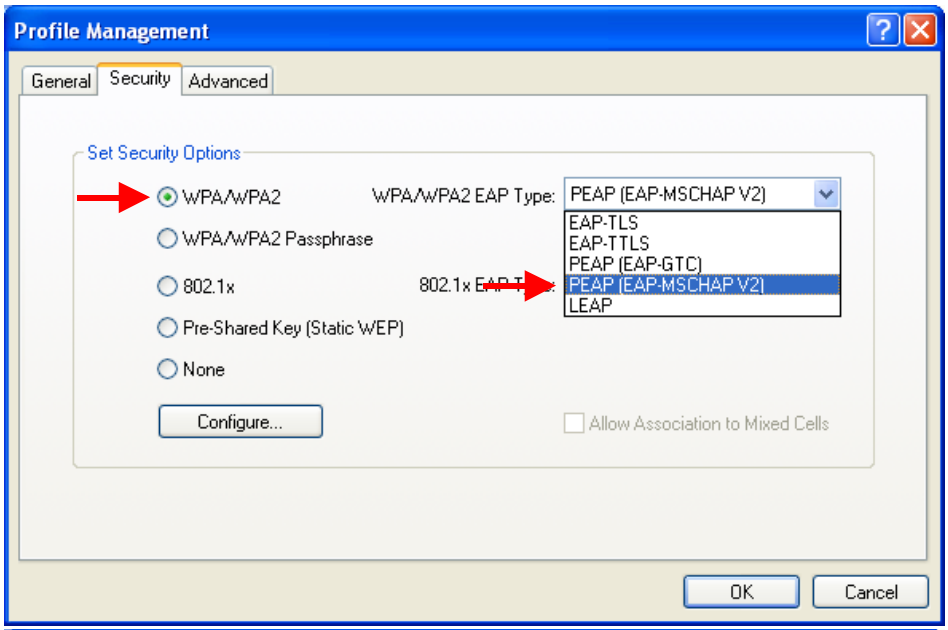
- ✓ The login name used for PEAP tunnel authentication, fills in automatically as PEAP-XXXXXXXXXX, where XXXXXXXXXX is the computer's MAC address. Change the login name if needed.

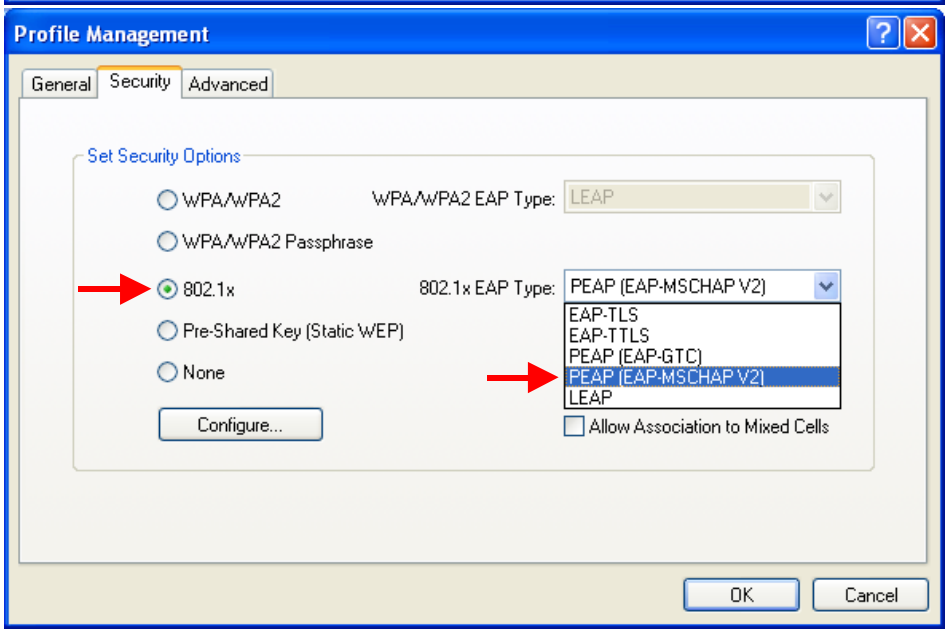
6. Click **OK**.
7. Enable the profile.

4.4.7 Using PEAP-MSCHAP V2 Security

To use **PEAP-MSCHAP V2** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.

1. On the Security tab, click **WPA/WPA2** or **802.1x**.
2. Select **PEAP- MSCHAP V2** from the drop-down menu.

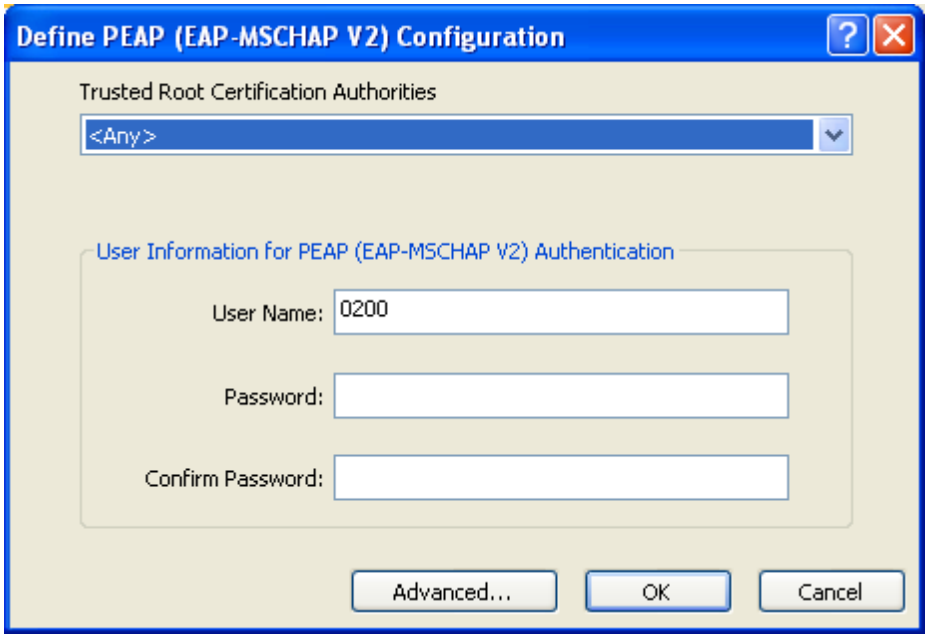




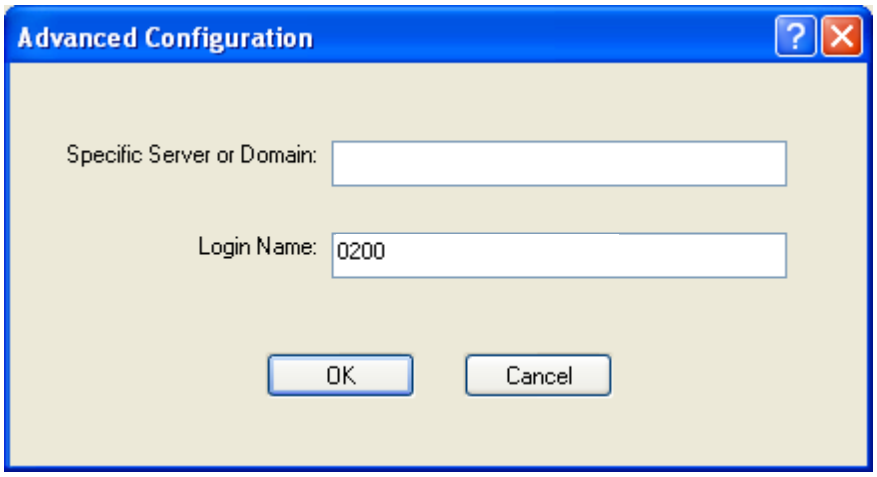
4.4.8 Enabling PEAP- MSCHAP V2 Security

To use PEAP-MSCHAP V2 security, the server must have the PEAP-MSCHAP V2 certificates, and the server properties must already be set. Check with the IT manager.

1. Click **Configure**.
2. Select the appropriate network certificate authority from the drop-down list.



3. Specify a user name for inner PEAP tunnel authentication:
   - ✓ Enter a PEAP user name in the User Name field to use a separate user name and start the PEAP authentication process.
4. Click **Advanced** and:

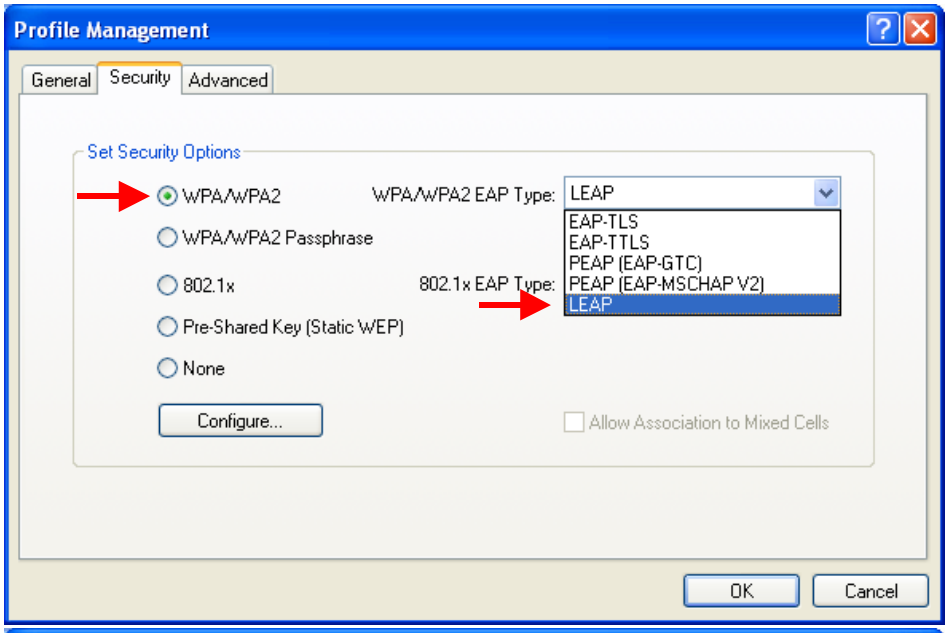


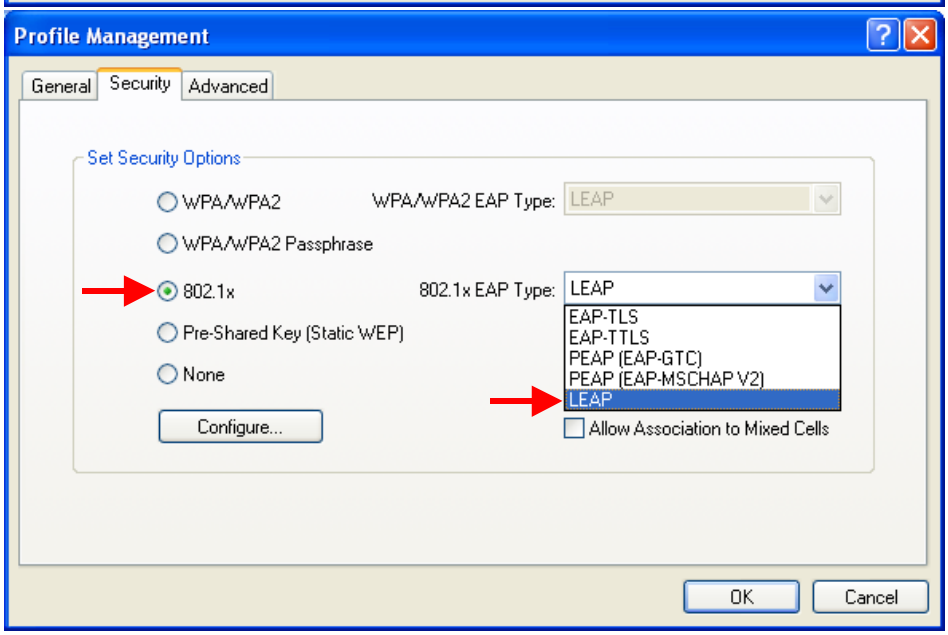
   - ✓ Enter the Specific Server or Domain name of the server from which the client will accept a certificate.
   - ✓ Change the login name if needed.
5. Click **OK**.
6. Enable the profile.

4.4.9 Using LEAP Security

To use **LEAP** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.

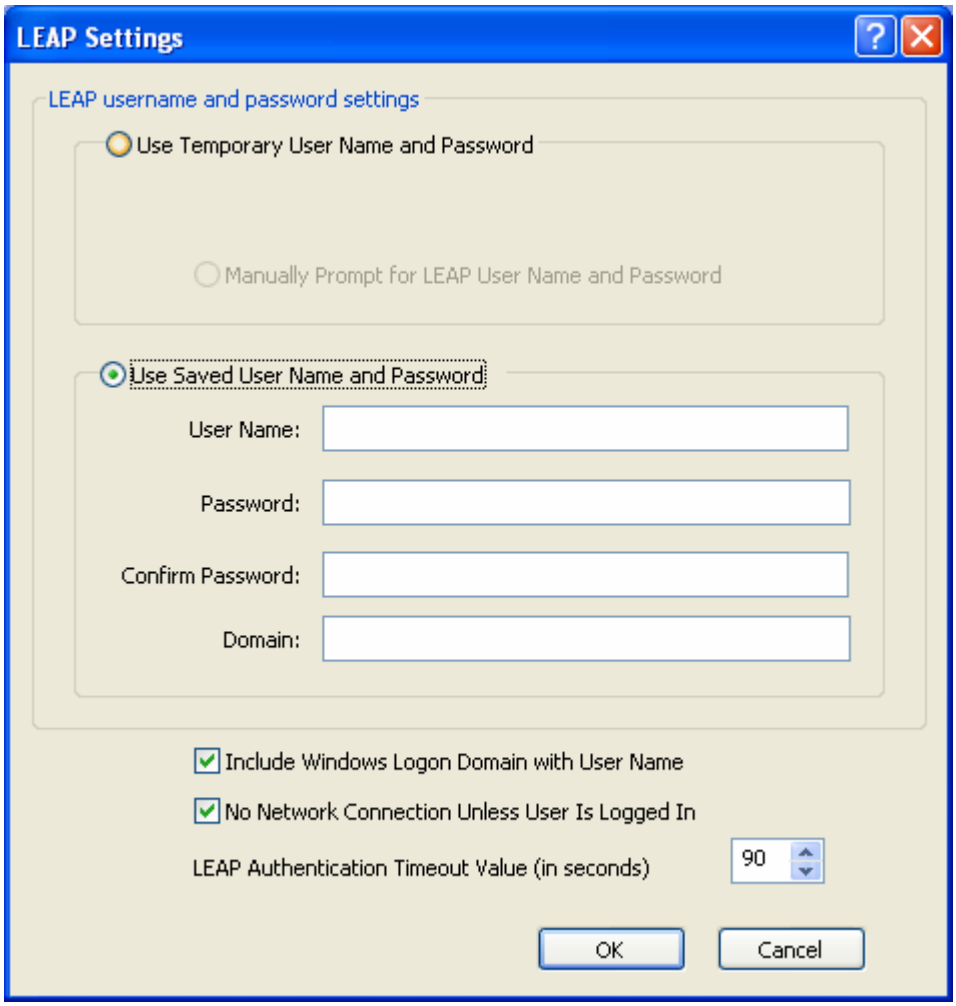
1. On the Security tab, click **WPA/WPA2** or **802.1x**.
2. Select **LEAP** from the drop-down menu.





4.4.10 Configuring LEAP

1. Click **Configure**.
2. Specify a user name and password:



Option 1: Select to **Use Temporary User Name and Password** by choosing the radio button:

(1) **Manually Prompt for Leap User Name and Password** is checked automatically.

Option 2: Select to **Use Saved User Name and Password** by choosing the radio button:

(1) Enter the user name and password.

(2) Confirm the password.

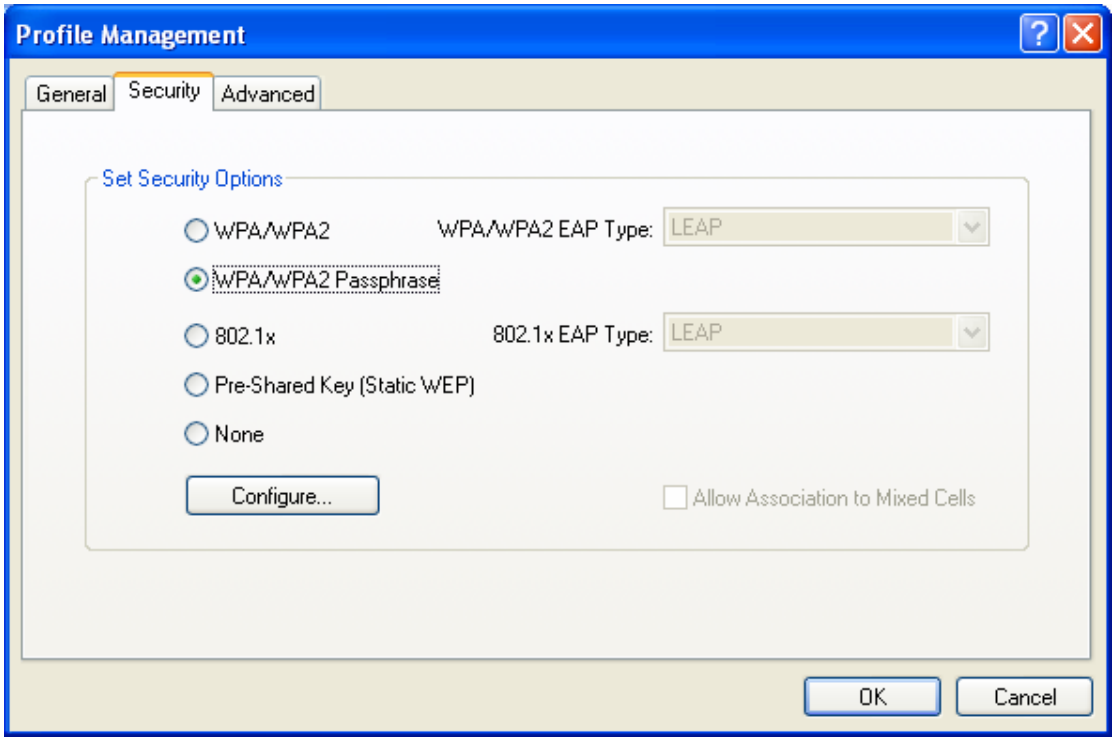
(3) Enter a specific domain name.

3. Check the **Include Windows Logon Domain with User Name** setting to pass the Windows login domain and user name to the RADIUS server (default).
4. Check **No Network Connection Unless User Is Logged In** to force the wireless adapter to disassociate after logging off (default).
5. Enter the LEAP authentication timeout time (between 30 and 500 seconds) to specify how long LEAP should wait before declaring authentication failed, and sending an error message. The default is 90 seconds.
6. Click **OK**.

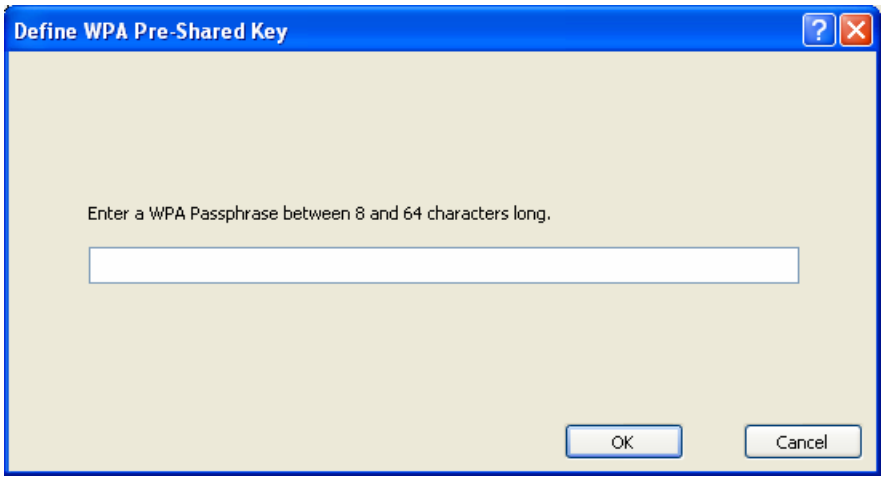
7. Enable the profile.

4.4.11 Using WPA Passphrase Security

To use **WEAP Passphrase** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.



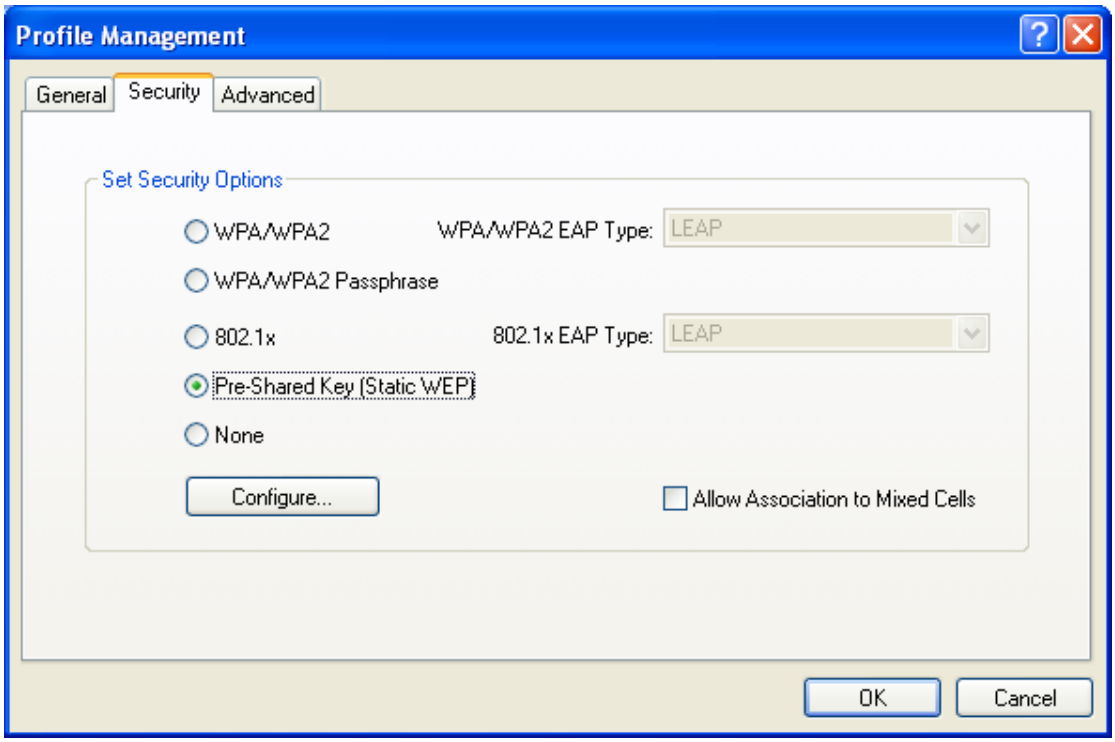
1. On the Security tab, click **WPA/WPA2 Passphrase**.
2. Click **Configure**.
3. Fill in the WPA Passphrase.



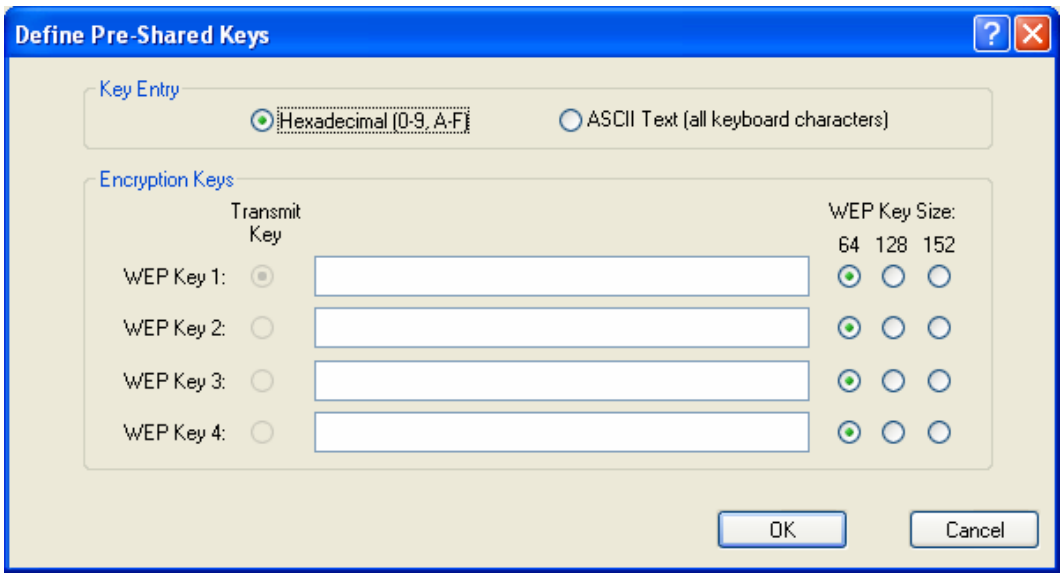
4. Click **OK**.

4.4.12 Using Pre-Shared Key (Static WEP) Security

To use **Pre-Shared Key (Static Web)** security in the WLAN 802.11a/b/g Utility, access the **Security** tab in the **Profile Management** window.

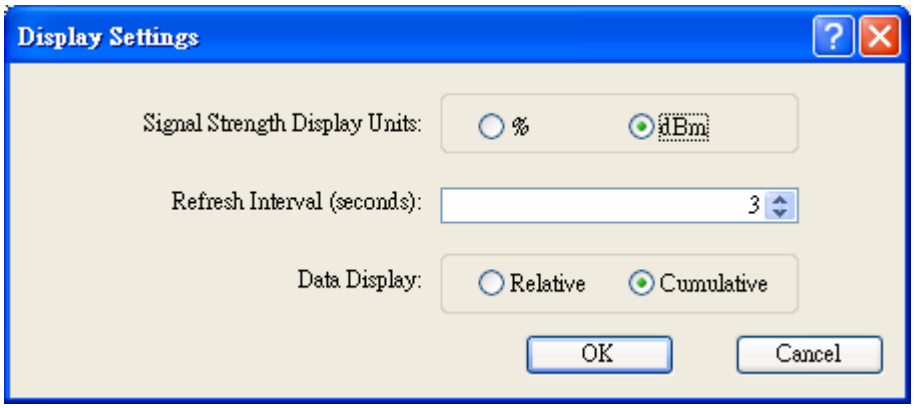


1. On the Security tab, click **Pre-Shared Key (Static WEP)**.
2. Click **Configure**.
3. Choose **Hexadecimal** or **ASCII Text** and then fill in the value of each **WEP Key**.



4.5 Display Setting

To change the display settings, choose Options → Display Settings from the menu. The Display Settings dialog box contains tools to set the Signal Strength Display Units, Refresh Interval and Data Display.



- **Signal Strength Display Units:** Sets the units used when displaying signal strength: percentage (%) or dBm.
- **Refresh Interval:** Use the up/down arrows to set the display refresh interval in seconds.
- **Data Display:** Sets the display to cumulative or relative. Relative displays the change in statistical data since the last update. Cumulative displays statistical data collected since opening the profile.

4.6 Actions Tools

Click **Action** from the menu to access the tools.

- **Enable/Disable Radio:** Enable or disable the RF Signal.
- **Enable/Disable Tray Icon:** Enable or disable the tray icon.

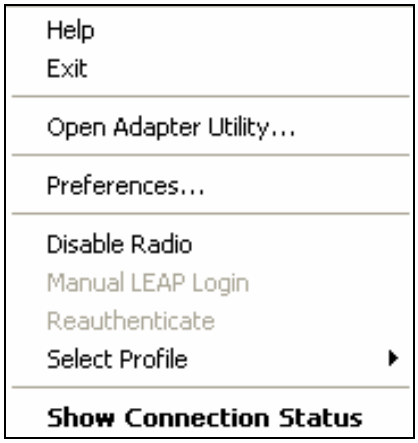
Enabled:

Disabled:

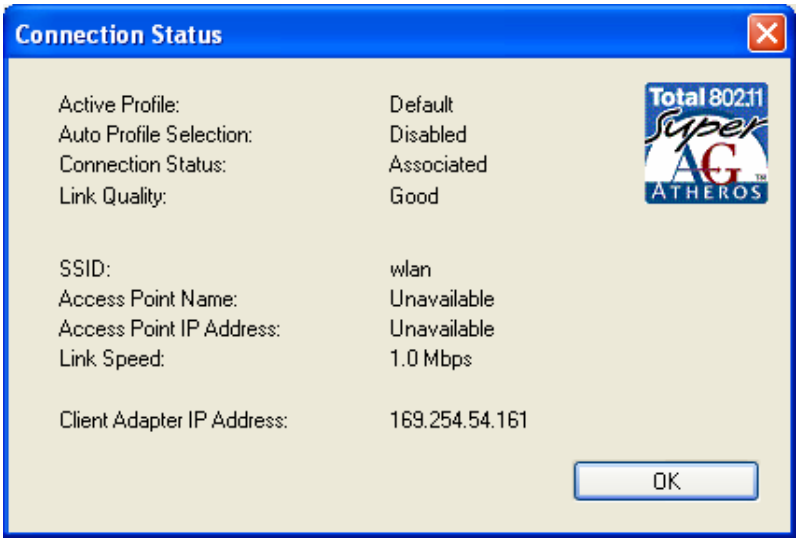
- **Manual LEAP Login:** Log in to LEAP manually, if LEAP is set to manually prompt for user name and password on each login. See Chapter 4 Security for enabling LEAP.
- **Reauthenticate:** Reauthenticate to a LEAP-configured access point.
- **Exit:** Exit the Utility application.

5. Right clicking the tray icon

Right-click on the tray icon to access the following options:



- **Help:** Open the online help.
- **Exit:** Exit the Utility application.
- **Open Adapter Utility:** Launch the Utility.
- **Preferences:** Set the startup options and menu options for the Utility. Check whether the program should start automatically when Windows starts, and check the menu items that should appear on the popup menu.
- **Enable/Disable Radio:** Enable or disable the RF Signal.
- **Manual LEAP Login:** Log in to LEAP manually, if LEAP is set to manually prompt for user name and password on each login. See Chapter 4 Security for enabling LEAP.
- **Reauthenticate:** Reauthenticate to a LEAP-configured access point.
- **Select Profile:** Click a configuration profile name to switch to it. If no configuration profile exists for a connection, see Chapter 3 Profile Management to add a profile first.
- **Show Connection Status:** Display the Connection Status window.



6. Network Application

This section consists of the network applications of 802.11a/b/g USB 2.0 Adapter, including:

1. To survey the network neighborhood
2. To share your folder with your network member(s)
3. To share your printer with your network member(s)
4. To access the shared folder(s)/file(s) of your network members(s)
5. To use the shared printer(s) of your network member(s)

In fact, the network applications of WLAN 802.11a/b/g USB 2.0 Adapter are the same as they are in a wired network environment. You may refer to the following 3 examples of Surveying the Network Neighborhood, File Sharing and Using the Shared Folder.

6.1 Surveying the Network Neighborhood

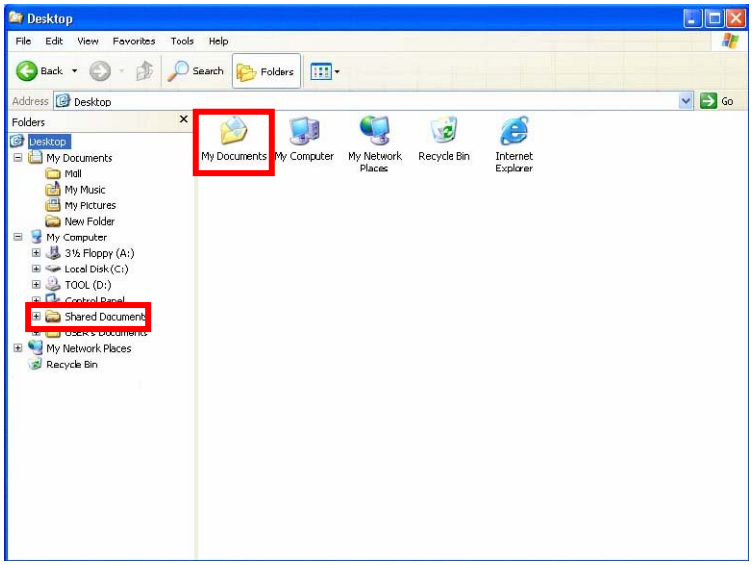
When multiple base stations are up and running in your wireless network, you can use the procedure described below to display the other computers:

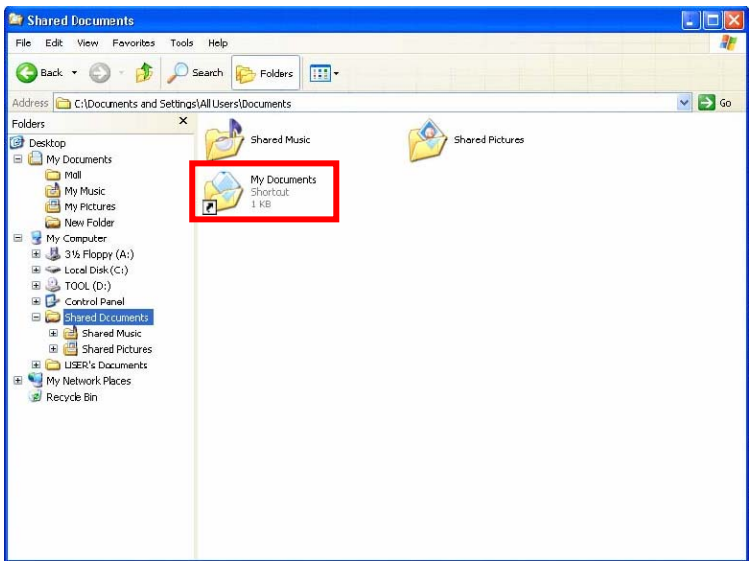
1. **Double-click My Network Places** to display all stations in your Microsoft Windows Network Group.
2. To display other workgroups in the network environment, **double-click Entire Network**.
3. If there is a **second network operating system** running in your network environment (for example a Novell NetWare network), the "Entire Network" window will also display available servers running under the second network operating system. If you click on these servers, you may be asked to **enter your user name and password** that applies to the other network operating system. If you cannot find it, verify whether the other wireless computers are:
   - Powered up and logged on to the network.
   - Configured to operate with identical Microsoft Network settings concerning:
     - ✓ Networking Protocol.
     - ✓ Wireless Network Name.

   To enable the sharing of **Internet access**, you should set your WLAN mode as **"Infrastructure"** and connect to the access point.

6.2 File Sharing

802.11a/b/g USB 2.0 Adapter allows the sharing of files between computers that are logged onto the same wireless network. If you want to share your folder “My Documents” with other computers of the wireless network, please **highlight the folder “My Documents” and drag it to Shared Documents folder**.





Sharing files in the IEEE802.11a/b/g wireless network will be like sharing files on a wired LAN.

6.3 Using the Shared Folder

If you would like to access a shared folder stored in other stations of same network, please follow the process below:

1. Double-click the “My Network Places” icon, and then double-click the computer where the shared folder is located.
2. Double-click the folder you want to connect to.
3. Now you may open the needed file(s).

NOTE! *If a password is required, the Windows will prompt a password column to you. Then you need to enter the password that had been assigned to this shared folder.*